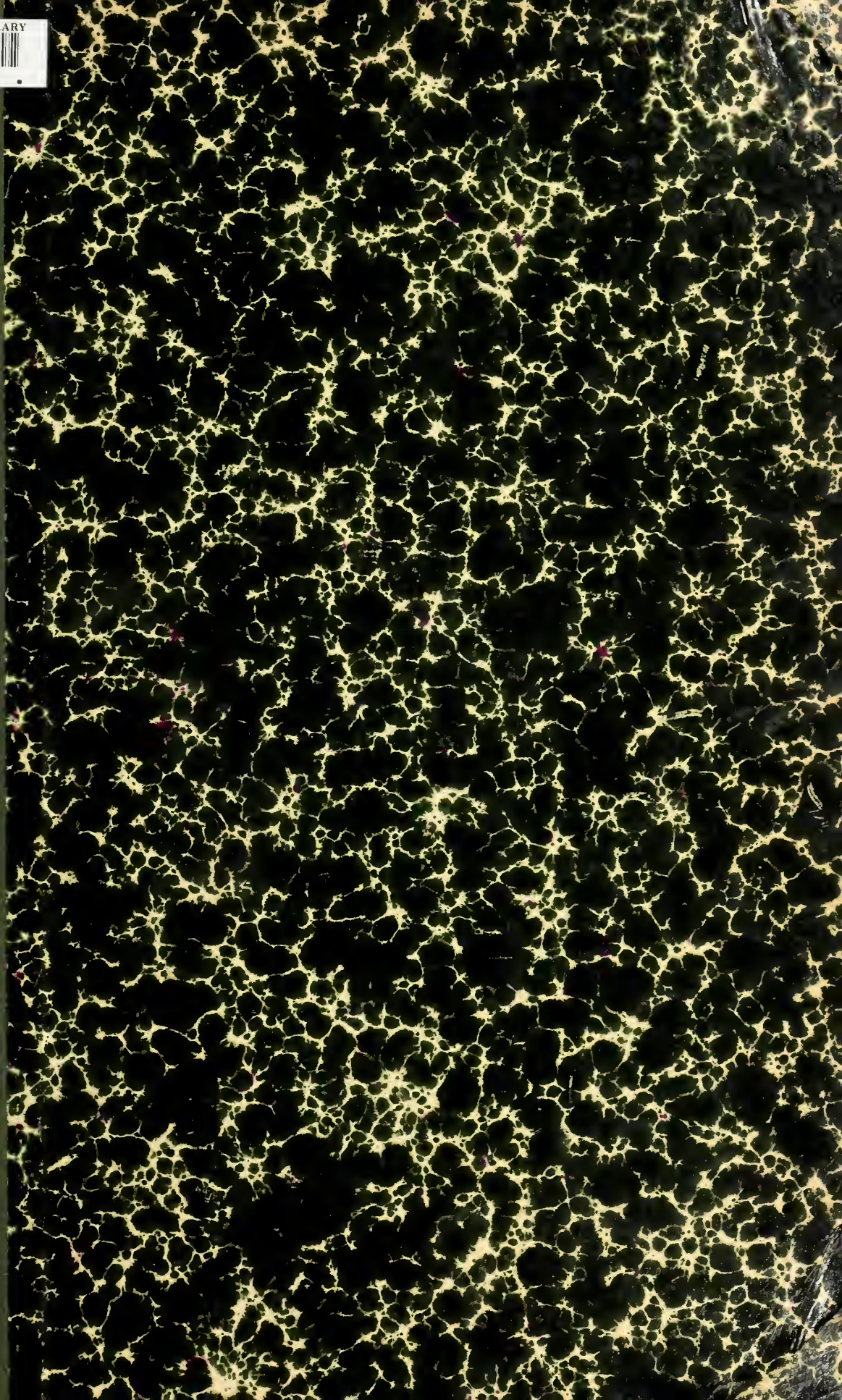


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W. M. HARDY, M.D., Secretary and Editor

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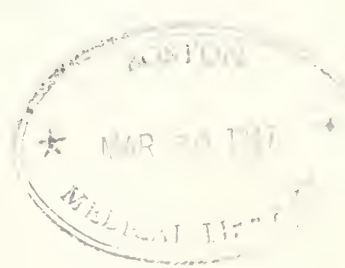
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## CONTENTS

A NEW METHOD FOR THE AMBULATORY TREATMENT OF POISON IVY DERMATITIS, by Frank G. Witherspoon, Nashville	1	NEWS NOTES AND COMMENTS	19
PRIMARY ATYPICAL PNEUMONIA: A REVIEW OF RECENT LITERATURE, by William A. Hensley, Jr., Cookeville	3	MEDICAL SOCIETIES	22
HEART BLOCK, by R. B. Wood, M.D., Knoxville	11	OTHER MEDICAL SOCIETIES	25
EDITORIAL	17	ABSTRACTS OF CURRENT LITERATURE	25
DEATHS	18	LIST OF OFFICERS OF THE TENNESSEE STATE MEDICAL ASSOCIATION	31
		STANDING COMMITTEES	32
		INDEX TO ADVERTISERS	XLII

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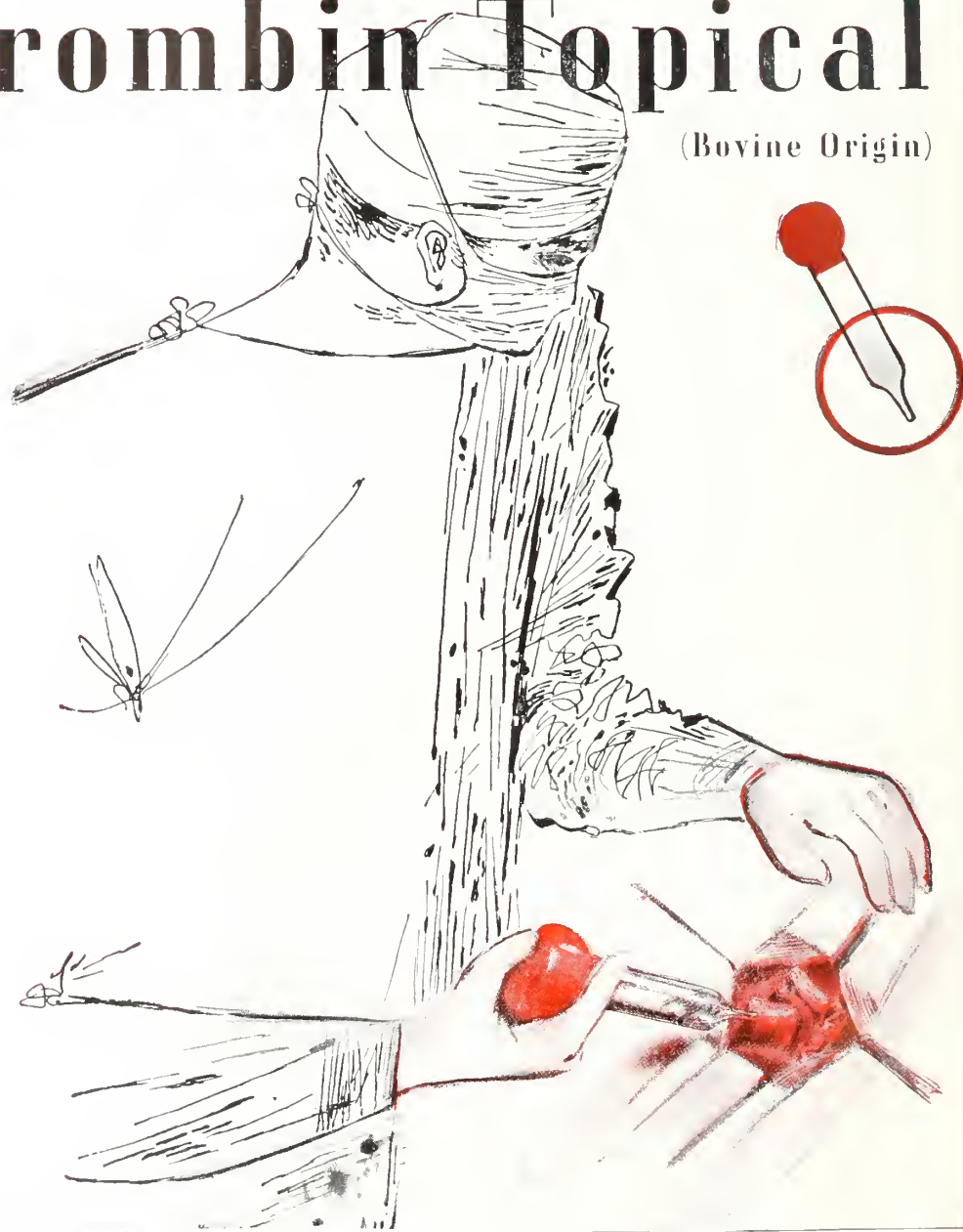


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## A NEW METHOD FOR THE AMBULATORY TREATMENT OF POISON IVY DERMATITIS

FRANK G. WITHERSPOON, Nashville, 1st Lt., M. C., A. U. S., Chief of Dermatology, Camp Atterbury, Indiana

Dermatitis venenata due to poison ivy is one of the more important incapacitating diseases in the Army each summer. Many methods of treatment have been used but none are of outstanding values. The dermatology section at Wakeman General Hospital in the summer of 1946 used a new preparation on approximately 70 patients who reported to the out-patient clinic with this condition.

The formula used is as follows:

Rx.	Phenol (or menthol)	1%
	Sodium perborate	10%
	*Emulsion base	q.s.
Sig.	Apply to affected areas every two hours.	

It is to be noted that a similar preparation was used by Schwartz *et al*<sup>1</sup> as a protective ointment for the prevention of poison ivy dermatitis.

The main use of this ointment is on acute cases of dermatitis with a limited involvement. With those patients who have large bullae present, and a widespread distribu-

tion of lesions, it is found to be more effective to alternate ice bags and one per cent sodium perborate compresses for a day or two, and then apply the aforementioned cream.

The advantages of the cream are several. The patient may remain on duty, applying the preparation every two hours, with soothing and rapid involutions of the lesions. The ointment is non-greasy, non-staining and has a pleasant odor. The composition is simple and the prescription is easily prepared.

There are, however, several disadvantages to the use of this preparation. When sodium perborate becomes moist, hydrogen peroxide is formed, with the resulting release of nascent oxygen. In this cream the release is gradual with the effectiveness of the preparation being lost in approximately 5 to 7 days. After this period of time it must be discarded, thereby necessitating a freshly prepared ointment for each case. As the oxygen is released the volume of the preparation increases, and therefore it is necessary for the pharmacist to dispense it in a jar approximately 50% larger than the original volume.

\*Note: "Emulsion base" is a greaseless cream, marketed by the Burroughs-Wellcome Co.

It has been known for many years that potassium permanganate will decompose the oily resins of the poison ivy plant (*Rhus toxicodendron*) and to split up the complex radical of urushiol, the active principle causing the dermatitis. This drug, however, must be used in a weakly diluted solution, because of its irritating properties, and is quite staining to everything with which it comes in contact. Sodium perborate, on the other hand, is less irritating, and is virtually non-staining. Application to affected areas is quite easy when sodium perborate is incorporated in a greaseless cream.

Perspiration causes the ointment to gradually liberate oxygen, and to detoxify the resins remaining on the skin. Destruction of the allergen might be expected to result in a more rapid absorption of the vesicular fluid, and indeed this seems to be the case. Since the vesicular fluid is in the nature of a transudate containing a fair percentage of protein, this protein is perhaps sufficiently denatured by the sodium perborate to aid in drying the vesicle. At any rate the absorption of vesicular fluid usually occurs in three or four days.

There was no evidence of chemical irritation due to sodium perborate in any individual having this treatment. Approximately ten per cent of those treated did not show satisfactory results with this therapy. This group was placed on a regimen of frequent potassium permanganate compresses in a dilution of 1:9000, with subsequent recovery.

## COMMENT

A series of 70 patients with dermatitis venenata due to poison ivy were treated with an oxidizing agent (sodium perborate 10%), incorporated in a greaseless cream containing an antipruritic agent, (phenol or menthol 1%). If the lesions were too acute or too widespread for ambulatory treatment, the patient was hospitalized and iced one per cent sodium perborate compresses were applied. When the dermatitis improved sufficiently the compresses were replaced by the cream. In many cases, symptomatic relief appeared in a few minutes and most of the patients were clinically cured in five to seven days. Ten per cent of the individuals treated did not respond to this therapy and were placed upon 1:9000 potassium permanganate compresses.

The advantage of an ambulatory treatment for poison ivy dermatitis is obvious, and it is felt that many hospital days were saved by the use of this preparation.

## SUMMARY

A new ambulatory method of treating poison ivy dermatitis is presented. Seventy patients were treated with a ten per cent sodium perborate cream with gratifying results.

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112th Annual Meeting

Tennessee State Medical Society

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April 8, 9, 10, 1947



## PRIMARY ATYPICAL PNEUMONIA: A REVIEW OF RECENT LITERATURE\*

WILLIAM A. HENSLEY, JR., M.D., Cookeville

During the past few years there has been recognized with increasing frequency an acute respiratory infection associated with peculiar pulmonary lesions. This infection is usually a mild one, differing widely from the classic lobar and bronchopneumonia; it is communicable, has a prolonged period of incubation, and is prone to occur in military camps, schools, hospitals, and other groups with frequent intimate contacts. It is a nonbacterial disease. It is characterized by insidious onset, coughing, and progressive malaise; there is usually a brief febrile period during which the pulse and respiratory rates are relatively slow and there is relative or absolute leucopenia, with minimum early signs of pneumonia and X-ray findings usually out of proportion to symptoms and physical findings.

This type of pneumonia has been and still is called by various names. Inability to isolate a common pathogenic bacterium has led to the use of the term "virus pneumonia." Numerous other designations, including current bronchopneumonia of unusual and undetermined etiology, atypical pneumonia with leukopenia, pneumonitis, acute influenzal pneumonia, acute diffuse bronchiolitis, disseminated focal pneumonia, and benign bronchopulmonary inflammation, have been used in reporting cases.

With the onset of World War II, the medical services of the armed forces, recognizing such a large number of cases of this disease, in order to prevent confusion and to facilitate classification of illness adopted the term "primary atypical pneumonia of undetermined etiology" to designate this clinical entity. Because of the relative adequacy of this designation and because the majority of cases have been reported as primary atypical pneumonia, this terminology has been almost generally accepted.

Owen<sup>1</sup> has pointed out that primary atypical pneumonia is not a new disease. He called attention to the report of Stans-

field in 1923<sup>2</sup> in which pulmonary involvement was noted in twelve cases of grip and to the report of Cole and MacCallum<sup>3</sup> who summarized data on pneumonias occurring in military camps in 1918 and mentioned one type of bronchopneumonia with pathological changes similar to those of primary atypical pneumonia. Leichtenstern,<sup>4</sup> reviewing the influenza epidemic of 1889, likewise commented on certain pneumonia complications unlike those seen in the majority of cases of influenzal pneumonia. Delafield,<sup>5</sup> in 1884, described a rare, subacute bronchopneumonia of adults. Interstitial pneumonia has been detected in preserved lungs of soldiers of the Civil War and pneumonia following measles in the War of 1812 has been mentioned.<sup>6</sup>

Little is known regarding the incidence of primary atypical pneumonia in the past. The opportunity to thoroughly study respiratory infections in troops during the last war has added to our knowledge of the incidence of this entity in recent years. The rate in military hospitals ran quite high, Karpel, Waggoner, and McCown<sup>7</sup> reporting 700 cases of primary atypical pneumonia out of 7,000 admissions to the medical service at the Station Hospital in New Orleans, Louisiana, in 1944. Owen<sup>1</sup> reported 738 cases of atypical pneumonia out of a total of 799 cases treated for pneumonia at the Station Hospital, Scott Field, Illinois, in 1942. This incidence, even though contributory to our knowledge of the disease, cannot be accepted as correct for civilian population, however, because of the communicability of the disease and the crowded environments from which the majority of reports emanated.

However, the increasing occurrence of atypical pneumonia in the past few years cannot be attributed solely to increased recognition nor to mass congregation of young adults. In reports covering periods of several years such as those of Bowen<sup>8</sup> in Hawaii, Murray at Harvard University,<sup>9</sup> and McKinlay and Cowan at the University of Minnesota,<sup>10</sup> a steadily increasing incidence of the disease has been described.

\*Read at Staff Meeting, St. Thomas Hospital, Nashville, June 10, 1946.

Apparently all authors are in agreement on the epidemiology of primary atypical pneumonia. Studies of the predisposing factors have not revealed any significant clues other than those commonly attributed to the simple infections of the respiratory tract. Many have a history of onset of symptoms with climatic change, fatigue, or loss of sleep; most were unable to explain the onset. The majority of reports have dealt with outbreaks almost entirely limited to young adults. Karpel,<sup>7</sup> in his analysis of cases, found fifty-eight per cent of his patients to fall within the twenty-thirty-year age group. Most outbreaks occurred in late fall or early winter, although sporadic cases have appeared at all seasons. The October month trend is still upward. The literature is almost unanimous with respect to an incubation period of one to three weeks, most likely about two. While the disease does not seem very contagious, prolonged contact such as occurs in hospitals, dormitories, and barracks results in a high incidence of the disease.

Although the clinical and epidemiological features of primary atypical pneumonia have been quite well characterized, a common etiological agent remains to be isolated and identified. Because the clinical syndrome of atypical pneumonia may be produced in its essential characteristics by a variety of agents, including bacteria, fungi, rickettsia, and viruses, these agents, alone and in combination, have been incriminated by various investigators as responsible for the disease.

Etiological studies by these authors have included intradermal tests, serological reactions, microscopic tissue studies and sputa examinations. Although pneumococci, usually of the higher types, have been found in respiratory exudates of patients with primary atypical pneumonia, they were not considered of importance. The Commission on Acute Respiratory Diseases<sup>11</sup> reported experiments in human volunteers demonstrating conclusively the ability to produce primary atypical pneumonia in healthy volunteers by innoculating them with bacteria-free, filtered sputa and throat washing from patients known to have the disease. Florman and Weiss,<sup>12</sup>

in reporting on serological reactions in primary atypical pneumonia, showed some forty-seven per cent of their patients had positive agglutinations for streptococcus 334. The agglutination titers were relatively low, however, and the authors did not attach much significance to their results. Owen<sup>1</sup> and his associates used the Frei test on twenty-three patients in order to determine the possible relation of the lymphogranuloma venereum virus to primary atypical pneumonia with negative results. The psittacosis virus was isolated from cases of severe atypical pneumonia by Eaton, Beck, and Pearson,<sup>13</sup> and Stickney and Heilman<sup>14</sup> identified the agent from one rather seriously ill patient as the psittacine virus. Although considerable other work has been done on psittacosis, the fact remains that the organism cannot be isolated from all cases of primary atypical pneumonia and cannot therefore be designated the specific etiological agent. The Commission on Acute Respiratory Diseases<sup>15</sup> states in its May, 1945, report that during the past three years of its experience in the army the diagnosis of psittacosis or ornithosis has not been established in a series of 2,500 patients with atypical pneumonia or other respiratory infections. Dr. Thomas Francis, Jr., of the University of Michigan performed influenza serologic tests on twenty-three of Doctor Owen's cases<sup>1</sup> from Scott Field, Illinois, and reported all of them negative. Dyer, Topping, and Bengston<sup>16</sup> were able to isolate the rickettsia of Q fever from three of four patients in an isolated outbreak of atypical pneumonia. Hesdorffer and Duffalo<sup>17</sup> reported one case of mild pneumonia in which infection with rickettsia *diaporica* was indicated by positive agglutinations, but Green and Eldridge<sup>18</sup> reported no evidence of infection with this rickettsia in fifteen patients. The present status of research into the etiology of primary atypical pneumonia was summarized by one group of investigators<sup>12</sup> who aptly concluded their article: "The many combinations of response which are measured by the various tests (for an etiological agent in primary atypical pneumonia) reported here may be a reflection of indi-



vidual variation or of several different agents producing the same syndrome. Until the etiological agent for the majority of cases of primary atypical pneumonia or viroid pneumonia is identified, these tests serve only the practical purpose of more clearly defining the disease."

In contrast to the etiology about which there is obviously considerable uncertainty, the clinical picture of primary atypical pneumonia is quite clear. Most reporters agree with Karpel, Waggoner, and McCown<sup>7</sup> in their critical analysis of 500 cases that the onset of the disease in the majority of cases is insidious. The patient feels that he is developing a common cold, and many patients will not seek medical attention for days or weeks. Chilliness is a common symptom, but frank chills are the exception. Headache is frequent and malaise is almost universal. Haines and Forcey<sup>19</sup> reported sore throat to be an early symptom in about half of their cases. Prostration is not marked, but cough, usually nonproductive at the onset, but later becoming productive of mucopurulent sputum occasionally blood streaked in nature, was a prominent early symptom in all cases reviewed. Cough was usually accompanied by substernal pain or heaviness attributed by most authors to muscular action entailed by extensive cough. Chest pain classified as pleuritic pain was encountered in more than ten per cent of the cases in some series.<sup>7</sup> In about twenty-five per cent of the cases the onset is acute with the afore-mentioned symptoms developing within twenty-four hours or less. In an even smaller number of cases the disease is ushered in with a severe shaking chill and rapidly developing prostration. Herpetic lesions, so frequently found in lobar pneumonia, were present in only a few of the cases reported.

The temperature in the usual case was elevated and ranged from 102 to 104 degrees Fahrenheit. The fever was of a septic type and daily variation was the rule. Fever usually became maximum in the afternoons and evenings and fell to normal or nearly so by morning. More than one author has commented on the fact that

patients appearing alarmingly ill during the night appeared reassuringly well when seen the next morning. Fever is not necessary for diagnosis, however, because certain of the benign infections were completely afebrile.

The pulse and respiratory rates were typhoidal; the pulse was full but not rapid; the respirations deepened but not accelerated. These findings were so consistently true that increases in pulse and respiratory rates were generally taken as indications of secondary bacterial infection. Dyspnea and cyanosis were the exceptions, and, although oxygen was occasionally used empirically, its use rarely became urgent.

Physical signs early in the course of the disease were minimal to absent. Most authors reported rales as the most common early physical finding. These were usually fine, sticky crepitations occurring in showers at the end of fairly deep inspirations and accentuated by coughing. Campbell,<sup>20</sup> however, in his report of 200 cases from Fort Eustis, Virginia, was more impressed by the suppression of breath sounds as an early sign of atypical pneumonia than by the presence of rales. Karpel,<sup>7</sup> in his analysis of cases, reported as earliest sign rales in 53.8 per cent, suppressed breath sounds in 18.6 per cent, and impaired percussion in twenty-five per cent of the cases studied.

As the disease progressed the rales became louder and coarser and were heard during a greater portion of the inspiratory phase and later during the complete respiratory cycle. It was during this phase of the disease that suppression of breath sounds, impairment of percussion note, and sometimes increased fremitus became most marked. At times the coarse rales faded promptly, but often persisted long after the X-ray findings had completely disappeared and the patient was well along in his convalescence.

One of the most atypical features of this pneumonia was the complete dissociation between findings in the chest and the extent of the patient's symptoms, disability, fever, and other complaints or between either of these factors and the roentgenographic appearance of pulmonary cloudi-

ness. There might be an apparently clear chest, very slight haziness on X-ray, and yet an acutely ill patient. On the other hand, loud rales may have been heard widely and the X-ray may have shown patchy cloudiness throughout a lobe while the patient was only slightly uncomfortable.

Laboratory findings in primary atypical pneumonia differed considerably from findings in known bacterial pneumonias. Sputum studies were entirely negative for tubercle bacilli, and although gram positive diplococci were present in small numbers in many of the sputum specimens, in only a small number were type-specific pneumococci identified, and the majority of these were of the less significant higher types.

Analysis of the white blood cell counts in 738<sup>1</sup> cases of primary atypical pneumonia revealed the lowest count to be 2,600, the highest 30,000, with the leukocyte count on admission averaging 9,860. In another series of 500 cases<sup>7</sup> an analysis of the leukocyte count revealed it to be between 5,000 and 10,000 in 56.6 per cent of the cases. In this same series slightly more than one-fourth had leukocytosis and about six per cent had a leukopenia. In 35.4 per cent young forms were noted in the differential count, and 18.4 per cent of the cases revealed increased eosinophilic cells. With convalescence the leukocyte count returned to normal, and there is no evidence of the white blood count being favorably influenced by sulfonamides. Erythrocyte and hemoglobin values remained normal.

Urinalyses were essentially negative save for transient albuminuria occurring in a few cases at the height of the febrile period.

Blood cultures were negative in all cases.

Cold agglutinin tests were not run as a routine in most of the series of cases of primary atypical pneumonia reviewed. The Commission on Acute Respiratory Diseases,<sup>21</sup> however, studying cold agglutinins in ninety-three patients with primary atypical pneumonia and 123 patients with other respiratory diseases, including bronchitis, laryngitis, pharyngitis, tonsillitis, and other similar disorders reported fifty-

five per cent of the cases had cold agglutinins, and only thirty-one per cent had titers sufficiently high to differentiate them from other respiratory diseases. Their conclusions were that in general cold agglutinin titers of one to sixty-four or more were strong evidence of primary atypical pneumonia, and that lower titers were of significance only if they were found to increase steadily over a period of time.

The X-ray is the most important aid in the diagnosis of atypical pneumonia, as it may establish early the presence and extent of the pulmonary lesions. The X-ray alone, however, is not to be considered sufficient evidence for the diagnosis of primary atypical pneumonia. As Stein and Kresky,<sup>22</sup> in their comparative study of primary atypical and bacterial pneumonias, have so aptly put it: it is fallacy to employ roentgen criteria to differentiate the two and any attempt to diagnose with X-ray alone is sure to be inaccurate. Both Owen<sup>1</sup> and Karpel and associates<sup>7</sup> reported a predilection for involvement of a lower lobe. Reporters have differed, however, in their figures on incidence of right- and left-sided involvement, but the differences are slight and it is practical to assume equal incidence of involvement. Not all involvement is basilar, however, for in a large series of cases<sup>7</sup> it was found that the left upper lobe was involved in 6.2 per cent of the cases. In this same series it was noted that in 22.2 per cent of the cases two lobes were involved, in 2.2 per cent three lobes, and in one per cent all lobes were involved. Campbell and associates<sup>20</sup> found fluid in the pleural cavity in six per cent and elevation of the diaphragm or mediastinal shift to the affected side or both in nineteen per cent of their cases.

X-rays taken early in the course of the disease revealed an increase in the size and density of one or both hilar shadows and prominence of the truncal shadows extending from the hilus toward the periphery of the lung. In basilar lesions these increased truncal shadows were described as "streaking densities" radiating downward from the lung root and extending outward over the leaf of the diaphragm.



Later in the stage of the disease the truncal markings became more prominent and superimposed upon them were mottled shadows simulating somewhat bronchiectasis. As the disease further progressed the mottled irregular shadows assumed a more uniform cloudiness and became more generally distributed throughout the lung parenchyma. These shadows in many instances resembled lobar pneumonia, encapsulated fluid, and neoplasms. The density of the shadow and the complete lobar involvement seen in typical lobar pneumonia were only rarely encountered. All authors have been impressed by the roentgenographic similarity between tuberculosis of the confluent, flocculent type, and primary atypical pneumonia involving an upper lobe. They all agree that differentiation between the two requires sputum studies and serial X-ray films. Grimm and Denton,<sup>23</sup> Crysler,<sup>24</sup> Lewis and Lusk,<sup>25</sup> and others in reporting on the roentgen and pathologic findings in primary atypical pneumonia explained the stringy truncal densities as representing a combination of exudation within the bronchi and bronchioles, swollen bronchial and bronchiolar epithelial linings, and peribronchial and peribronchiolar cellular infiltration. The irregular areas of density were explained as representing small areas of atelectasis and alveolar exudation with alveolar hemorrhage causing this picture in some cases. Campbell, Strong, and associates<sup>26</sup> state that variation in pulmonary involvement on X-ray was a distinctive feature of the disease. They were impressed by the fact that in many cases the mottled densities were seen to appear and disappear overnight. The intermittent obstruction of smaller bronchi and bronchioles was thought to be responsible for these transient pulmonary changes and may account for negative X-rays when physical findings were present.

The mortality resulting from uncomplicated primary atypical pneumonia is extremely low. Consequently the opportunity to study the pathology in uncomplicated cases has been limited. Golden<sup>26</sup> has given an excellent summary of the pathological observations in primary atypical pneu-

monia. He reported the pleural surfaces of the lungs to be smooth and glistening with occasional small patches of frank, fibrinous exudate. He confirmed X-ray findings of pleural effusion of small quantity in many cases and reported this to be a clear fluid. On cut surface there were focal lesions with a gross appearance resembling miliary granulomas. These were bronchioles from which pus exuded or could be expressed. The lungs were frequently hemorrhagic and always showed congestion. The larger bronchi of the tracheobronchial tree were described as normal or as lined by a slightly edematous and somewhat congested mucous membrane. The fluid found within the lumens of such branches was either scanty mucoid, clear or somewhat more abundant and seromucoid, rarely blood tinged and sometimes purulent.

Microscopic study of tissues showed the larger and medium sized bronchi to have intact mucous membranes. The submucosa was edematous and congested with large mononuclear cells, lymphocytes, small numbers of plasma cells, and occasional polymorphonuclear and eosinophilic cells. Focal ulceration of the mucous membrane was observed in only a few cases. Elastic tissue and reticulum stains of the bronchi revealed no abnormalities.

Microscopic study of the bronchioles was most interesting. Inflamed bronchioles alternated with normal ones in an affected block of lung tissue. The most characteristic lesion consisted of frank pus, desquamated, mucous membrane cells, cellular debris, and mucoid fluid in the bronchiolar lumens. Ulcerations of the bronchioles was present fairly uniformly and in some cases the bronchioles were dilated. Bronchiolar walls and peribronchiolar areas were infiltrated with plasma cells, lymphocytes, and large monocytes. Such infiltration extended radially into adjacent alveolar walls, often thickening them to several times normal thickness. In spite of this thickening the alveolar lumens were frequently of normal dimensions and air containing, free from polymorphonuclear infiltration. Infrequently, however, rupture and necrosis

of the alveolar walls were found. Focal areas of atelectasis and intra-alveolar hemorrhage were common findings. The pathological picture was one of acute interstitial pneumonitis; virus etiology was suggested by similarity of the lesions to those found in influenzal pneumonia, measles, and pertussis. No inclusion bodies were found in sections stained with hemotoxylin and eosin. Bacteria of various types were noted on many sections, but these were in small numbers and not considered of significance. No other organs showed any consistent involvement considered to be of significance.

The disease usually ran a mild course. Although the prodromal symptoms were frequently of days' or weeks' duration, the acute symptoms of weakness, headache, and generalized aching infrequently persisted for more than twenty-four hours. Fever, which usually reached its peak about thirty-six hours after admission in Campbell's series of cases<sup>20</sup> reached normal by lysis in two to eight days. In his analysis Karpel<sup>7</sup> found the duration of fever to be one to four days in 55.8 per cent and five to nine days in 28.2 per cent of the cases.

Unfortunately, other physical signs did not disappear as rapidly as the fever. Haines and Forcey<sup>19</sup> found that the cough frequently persisted long after the acute phase of the disease had subsided. In a few cases it was possible to hear fine crackling rales for eighteen to twenty days after the onset of illness. Levene and Stearman,<sup>27</sup> in their study of the roentgenograms in primary atypical pneumonia, demonstrated centripetal resolution of the pneumonia process beginning on about the seventeenth day of illness and returning to normal by the twenty-fifth day. They emphasized the fact, however, that the roentgenographic evidence of interstitial pneumonitis and partial atelectasis might remain long after disappearance on all physical signs. These findings are generally agreed on. All authors reported persistence of easy fatigability into convalescence. In military hospitals patients with primary atypical pneumonia were kept until they were able to return to active duty. The duration of hospital stay varied

from an average of twelve days in Campbell's<sup>20</sup> series to thirty-nine days in Solomon's<sup>28</sup> series with an average from all reports being about two weeks.

For the control of general malaise most authors found the use of acetylsalicylic acid sufficient. Most troublesome to the patient and most difficult to control was coughing. During the early nonproductive stage no expectorant was found adequate. Codeine and various cough mixtures were employed with transient benefit at best. Adequate fluid intake was assured and oxygen was used at first sign of dyspnea or cyanosis. It is interesting to note that bed rest was advised as important and essential and no effort was made at early ambulation in these cases. Sulfonamides and penicillin were generally ineffective except, of course, in cases where secondary bacterial invasion was apparent. Solomon<sup>28</sup> derived interesting, but not definitely conclusive, results in his treatment of primary atypical pneumonia with convalescent serum. Nine out of ten patients treated with convalescent "virus pneumonia serum" had a temperature drop to normal by crisis within twelve to eighteen hours and a reduction in the convalescent period to an average of twenty-two days, whereas patients not receiving convalescent serum had a drop in temperature to normal by lysis in five to eleven days and had an average convalescent period of thirty-nine days. None of the other works reviewed showed beneficial effects following the use of convalescent serum. Uhlman<sup>29</sup> reported good results from X-ray radiation to the chest, others have used neoarsphenamine<sup>30</sup> and quinine,<sup>31</sup> but results have not been generally impressive.

Recurrences of primary atypical pneumonia are infrequent. Owen<sup>1</sup> reported twenty-seven out of 738 cases. The interval between initial attacks and recurrence varied from one to 123 days. As a rule, the recurrent attack was less severe than the initial one. In most of these recurrences the chest had been clear to physical examination, but not to X-ray, thus suggesting more conservative management of patients in whom the disease may have



cleared clinically, but not roentgenographically.

The prognosis is excellent.

Complications with primary atypical pneumonia were unusual, amounting to less than three per cent in one series of 500 cases.<sup>7</sup> These complications included pleurisy with effusion in four cases, lung abscesses which never required surgery in two cases, interlobar empyema in one case. Bronchiectasis was reported in two per cent of the cases and this complication, although not clearly demonstrable as Campbell<sup>20</sup> has pointed out, may be the cause for abnormally long convalescence. Owen<sup>1</sup> reported atelectasis of the middle and lower lobes of the right lung as a complication in one case. Finland, Strauss, and Peterson<sup>32</sup> reported several cases of secondary staphylococcal pneumonia in an epidemic of influenza-like disease in 1940 and 1941. Encephalitis has also been reported as a complication.<sup>28</sup>

As for differential diagnosis, the common respiratory diseases are, by far, the most important factors to be considered. As previously noted the onset of the disease differs little from that of the common cold, but with auscultatory or roentgen findings the problem is usually not difficult. Once the diagnosis of pneumonia was made, the mode of onset, the relative bradycardia, leukopenia, fall of temperature by lysis, and thoracic findings differentiated the atypical form from bacterial pneumonia. Technical laboratory procedures are required to rule out the known virus and rickettsial pneumonias which closely simulate this disease. Tuberculosis was suggested when atypical pneumonia involved one or both upper lobes. Sputum studies and serial X-ray films clarified the diagnosis. A rare case of atypical pneumonia involving a lower lobe may simulate appendicitis. Differentiation from renal and hepatic disease is rarely necessary.

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112th Annual Meeting

Tennessee State Medical Society

Hotel Peabody, Memphis

April 8, 9, 10, 1947

## HEART BLOCK\*

R. B. WOOD, M.D., Knoxville

Between the publications of Morgagni<sup>1</sup> and later of Adams<sup>2</sup> and of Wilson<sup>3</sup> who made perhaps the last noteworthy contribution on the subject of heart block, there have appeared many articles. The term is used to denote any interference of the impulse as it traverses its normal pathways. These impulses arise rhythmically in the sinoauricular nodes then spread out, reaching the atrioventricular node, thence down the Bundle first described by His to reach the fine subendocardial network known as the Purkinje<sup>4</sup> system. The His Bundle divides into a right and left branch. Interference with conduction may arise at any point in the system, and the types of block described derive their descriptive titles from the anatomical part involved.

The nature of agents causing block are many. They vary from toxic factors, such as drugs, to organic vascular disease. Simple sinoauricular block for instance is rarely due to organic disease, while other types are invariably due to this. Some of these factors are temporary, others permanent in type.

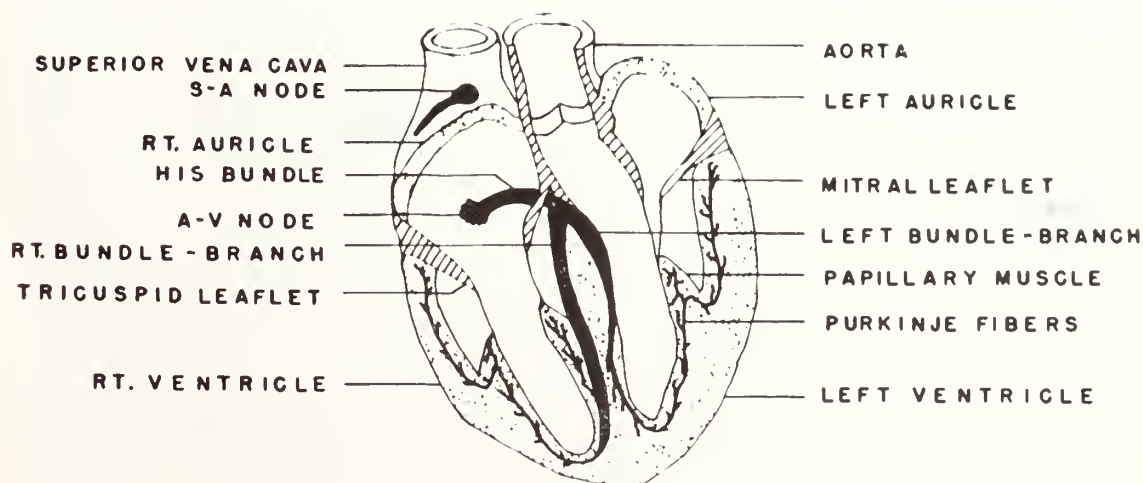
Conduction time of the impulse is measured by the electrocardiogram and is represented by the P-R interval, which normally varies from .16 to .20 seconds, varying with age, and which occasionally

may reach .21 in slow rates. While block may be suspected in most cases where the pulse rate becomes slower than thirty-five, the final diagnosis is dependent on electrocardiographic tracings.

All types of block are recognizable by this method, so classifications of this malady are based on electrocardiographic findings. A glance at illustration depicted in Figure 1 will reveal the possible varieties.

Sinoauricular block may be partial or complete; in the former we note in the electrocardiogram an absent auricular wave occurring occasionally, whereas in a complete block, no auricular waves will be seen. The bradycardia may or may not be accompanied by arrhythmia. Sinoauricular bradycardia, due to mild depression of the sinoauricular node is unimportant and may be normally seen, especially in athletes.<sup>5</sup> Vagal stimulation either in those with a hypersensitive carotid sinus in young or old is a frequent cause of abnormally slow rates and may give rise to attacks of syncope and in the arteriosclerotic may be a cause of convulsions. (Figure 2.) Drugs of the digitalis or cinchona groups exert their influence through their depressing effect on the sinoauricular nodes and furnish a very common cause of bradycardia. Organic disease of the heart rarely is found to be a cause, though occasionally seen following occlusion of a coronary

\*Read before the Tennessee State Medical Association, Knoxville, April 9, 10, 11, 1946.





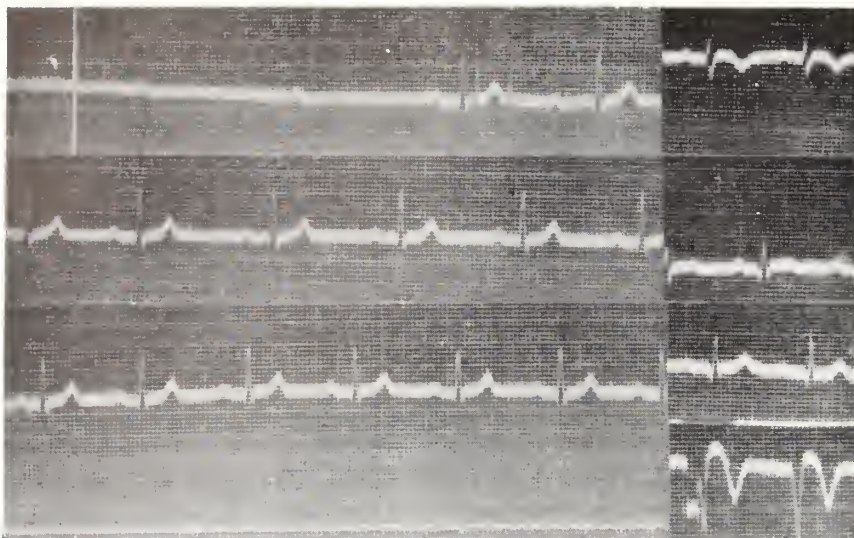


Fig. 2—Ventricular Standstill from Carotid Pressure

vessel or atheromata. Jaundice, mumps, post febrile states, intracranial pressure, infections of neck, and mediastinum are to be mentioned.

Auriculoventricular block. This was the first type of block ever described.<sup>1</sup> It embraces an extensive range of disturbances varying from simple increased vagal tone, which causes a mild delay in the transmission of the impulse to complete disassociation, in which no impulses are capable of

passing through. It is the most common type of block seen, but its frequency is no doubt missed in that relatively so few electrocardiographic tracings are made on sick people. White and Jones, reviewing 10,000 records in the Massachusetts General Hospital over a fifteen-year period, found heart block either partial or complete in 6.4 per cent of cases known to have heart symptoms or signs.<sup>4</sup>

The causes of auriculoventricular block



Fig. 4

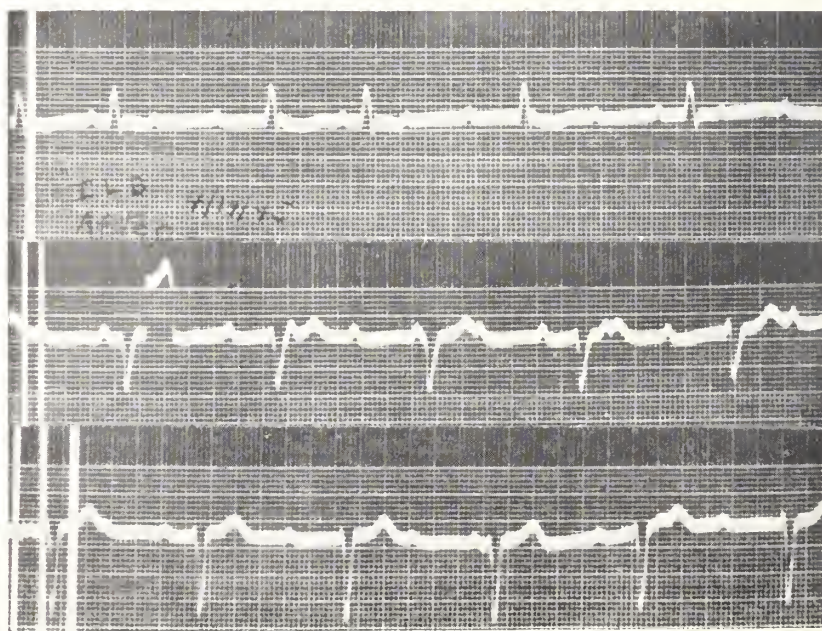


Fig. 5—A-V Block in Periarthritis Nodosum



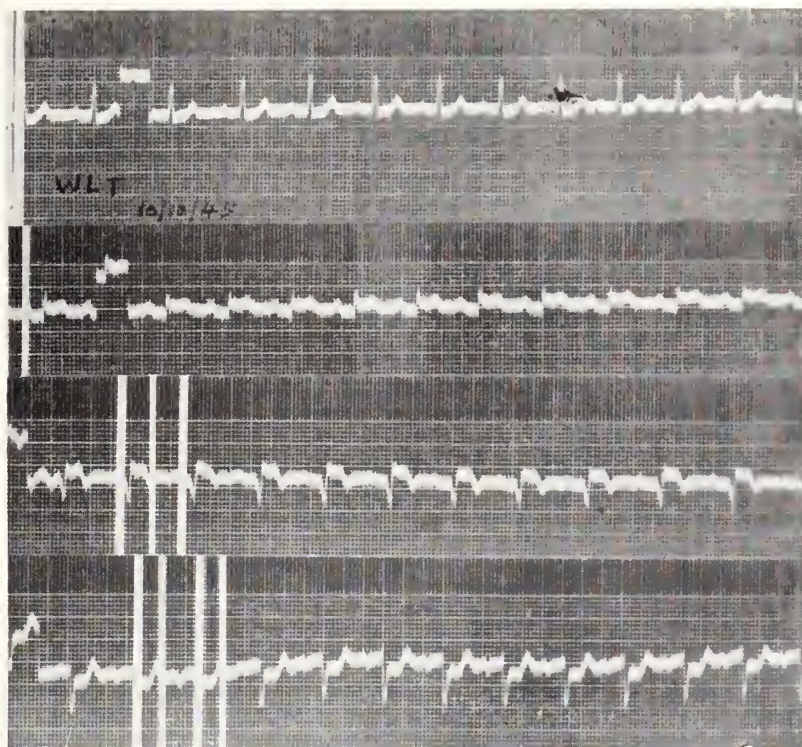


Fig. 6

are varied, since any factor that will prolong the refractory period may be listed, as fatigue due to lack of nutrition, disease, etc. Vagal causes also exist. Some portions of the tract are more susceptible than others. Lewis, White, and Meakins by animal experiments and clinical observations showed the junction of the auricular muscle and junctional tract to be the most susceptible and probably the most common site of block.<sup>7</sup> Auriculoventricular block may be temporary and functional or permanent and organic. It may be partial or complete, but must be regarded as complete when no impulses pass from auricle to ventricle. Rarely an impulse may pass from ventricle to auricle when they do not pass normally. The lesser degree of block are by far the more common and have been described as 4:3, 3:2, 2:1, etc. Grades higher than 2:1 are rare because a pacemaker in the auriculoventricular node is established and independent rhythm ensues. This usually occurs at ventricular rates below thirty-five per minute and accounts for the rare occasions in which we witness Adam-Stokes phenomena.

Auriculoventricular block may be caused by a variety of conditions, toxic or functional and temporary, or by organic and permanent factors. Both may coexist. Excessive vagal stimulation, digitalis in toxic amounts or quinidine and mineral poisons, as well as uremic states may be listed. Temporary effects of rheumatic fever, rheumatoid arthritis (Figure 4), periarteritis nodosum (Figure 5), and a vast number of diseases may also act as causes. Permanent and organic block is frequently noted from extensive coronary disease, though temporary block is not infrequently seen following acute coronary thrombosis. (Figures 6 and 6A.) Either gradual or sudden closure may cause sufficient myocardial ischemia to produce block. Other causes of permanent block are syphilis, diphtheria, tumors, trauma, and rarely congenital defects.

From the electrocardiographic standpoint Katz, Burch, and Winsdor, and others have suggested that auriculoventricular block may be classified as: (1) Incomplete or partial without and with dropped ventricular beats. (2) Complete block with a

rhythm being initiated by impulses arising in the node or in the ventricular muscle. In the case of incomplete block with dropped ventricular beats the pulse rate interval gradually lengthens (Figure 7)—*i.e.*, the conduction of the impulse slows until it no longer is able to pass through. This was first described by Wenckebach and is usually seen in arteriosclerotic heart disease.

Bundle Branch Block is a term applied to involvement of the branches of the conduction system. Involvement of a small portion of a branch would probably escape recognition by the electrocardiographic tracing, which is the only means of diagnosis. From the electrocardiographic standpoint, we recognize two groups mainly right (Figure 8) and left Bundle Branch Block (Figure 9) and further division has been made into typical and atypical forms. The frequency is about that of auriculoventricular block, but left Bundle Branch Block is about three times that of right. In the years 1934 to 1943, inclusive, over 1,000 cases of definite

Bundle Branch Block were seen at the Massachusetts General Hospital.

The group of this type are the same as auriculoventricular block—*i.e.*, temporary or functional and permanent or organic. It is safe to assume that forces at work would seldom be confined to a small area except perhaps in coronary occlusion. That portion of the myocardium supplied by one or the other of the bundles will be innervated later whenever it is the seat of the most extensive pathology, because the impulse must travel down the undamaged tract and spread through the septum to the more extensively diseased side. This prolongs the time of conduction to over .10 second, which is one of the criteria that must be met in the diagnosis of Bundle Branch Block. Degeneration of the myocardium is undoubtedly the most important cause, while next in order is rheumatic fever, diphtheria, and syphilis. Of the causes of temporary block quinidine and digitalis and other poisons rank first. It

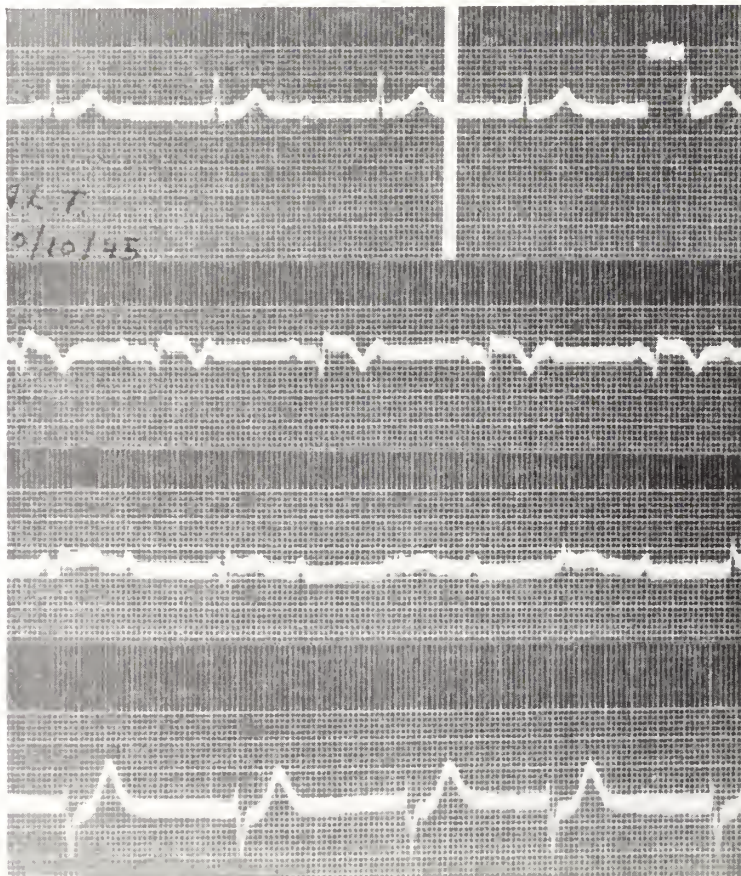


Fig. 6-A



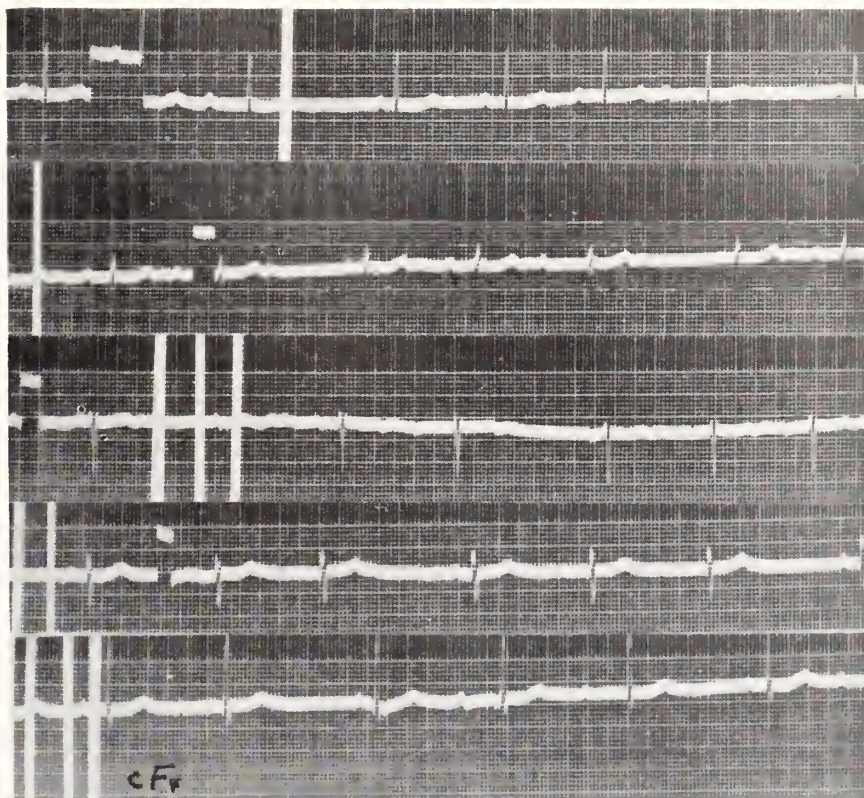


Fig. 7—Wenckebach's Phenom

occurs 3:1 in males and generally after sixty, because of high incidence of arteriosclerosis as a cause. Rarely it is seen in youth, and when so it is most often of the right Bundle Branch Block variety and characterized by a deep  $S_1$ . (Figure 8.) Another variety has been described as the Wolff-Parkinson-White syndrome, which is characterized by a short P-R and a wide QRS interval. No doubt but that more of this and perhaps of other types will be reported as more frequent use of the electrocardiogram among young people is employed.

There are no symptoms or signs of this malady. The palpitation or anginal pains that may be present in some individuals who also have block may bring them to the physician, and he in turn might suspect block in the presence of a reduplication of one or both heart sounds, but it would be rare indeed for one to predict the presence of block without an electrocardiographic tracing except in extreme bradycardia or in Stokes-Adam phenomena.

The prognosis of Bundle Branch Block varies with the presence or absence of other signs of heart disease. Three years has heretofore been about the average, according to White, but as he emphasizes that those cases exhibiting right Bundle Branch Block and presenting a deep  $S_1$  certainly carry a better prognosis. Many cases of this type have been known to survive many years as has been the case of this physician whose tracing is shown. (Figure 8.) Evidently this type may be produced by some anomalous state or by some fibrotic change in one of the bundles as a result of some early infection.

#### TREATMENT

In simple terms treatment is directed to the cause where found and where subject to amenable action. Increased vagal activity is removed by atropine; complete block is rarely affected by anything, especially if caused by arteriosclerotic disease. The drug list includes atropine, epinephrine, ephedrine, amphetamine, nitroglycerine, barium chloride, thyroid extract, metrazol,



nikethamide, and the xanthines. In the average case all may often be found to be ineffective. In the arteriosclerotic the use of vasodilators are still the order of the day, but their use may be the result of wishful thinking.

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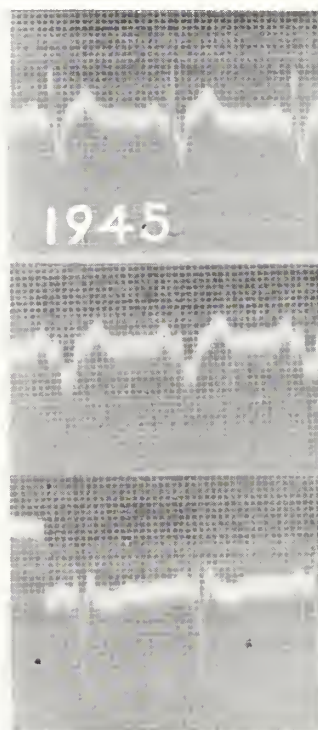
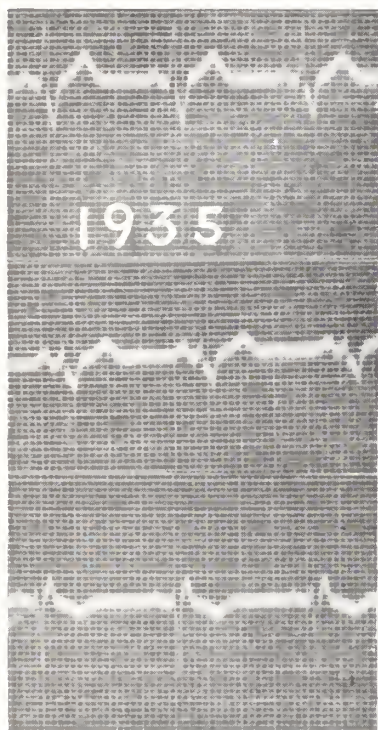


Fig. 8

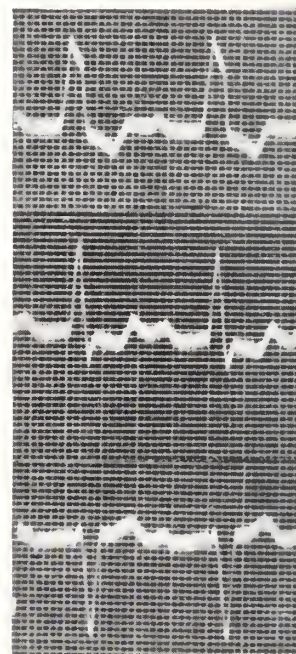


Fig. 9

# THE JOURNAL

OF THE

TENNESSEE STATE MEDICAL ASSOCIATION

Devoted to the Interests of the Medical Profession of  
Tennessee

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W. M. HARDY, M.D., Editor and Secretary

JANUARY, 1947

## EDITORIAL

### TAKING STOCK

At the beginning of a new year it is well that we take stock of what our JOURNAL contained in the past and plan for a better publication.

We have repeatedly requested suggestions for the improvement of the publication, and very few replies have been received. We do not know whether that indicates (a) satisfaction with the present status or (b) lack of interest or (c) hopeless despair.

A few letters and more kind words have been received indicating satisfaction with the present condition. For these expressions we are thankful. They encourage us to greater effort.

However, at a county society meeting recently we were asked a question, and the reply was that the JOURNAL had answered that question fully. A former editor remarked, "You will learn sooner or later that the doctors don't read your JOURNAL any more now than they read mine."

In discussing the question of abstracts, one of the leaders in the profession thought it would be best to discontinue the whole department except for the fact it filled space.

But let us look briefly at the departments that make up our publication and the policy governing each department.

1. Advertising. In recent years this has grown. The increase has compelled us to add more pages to other sections to keep a proper ratio of advertisements to scientific and organizational content. The Cooperative Bureau accepts advertisements only from ethical firms, and all copy is carefully edited. Local advertising is limited too much to Middle Tennessee firms, but no remedy has been found for this defect in the last twenty years. Needless to say that the income from advertisers is larger and that our appreciation should be shown by using the products of our advertisers.

2. The scientific papers, for the most part, are those read at the annual sessions. In building the program the needs of the men in general practice are paramount. Other papers which are published are sent us by county secretaries because of their special merit.

3. The editorial columns of the JOURNAL are open to the membership. Matters of general interest to the whole profession should be discussed here. There is much room for improvement in this department.

4. Death notices are published as reported in the lay press, and resolutions passed by county societies are printed if sent to us by the secretaries. We are frequently asked why no resolutions were printed in a certain case, and the answer is always that the county secretary did not send us a copy.

5. Materials for the News Notes and Comments, "And We Quote," Medical Societies, and Other Medical Societies are gathered from all available sources. Any item which may be of interest is included. Here again the county secretaries can contribute much to the betterment of the JOURNAL by reporting meetings and other professional items.

6. Abstracts are supposed to report to the profession the advances made in the specialties. Each abstractor is requested to review the best article he has read during the month. As mentioned above, it may be that this department should be discontinued. It may be that the abstracts are too long or too short. It may be that some subjects are overtreated. It is certain that

other subjects are omitted because of having no one to write the abstracts.

7. Book reviews are published when a copy is sent by the publisher and when we can find someone who will write the review.

In view of the above, let all of us look through this issue, and let us have constructive suggestions for making the JOURNAL better every issue.

## D E A T H S

### BYRD SMITH RHEA, M.D.

Byrd Smith Rhea, M.D., Lebanon; Vanderbilt University School of Medicine, Nashville, 1901; aged seventy-six; died December 21, 1946, after an extended illness.

### EUGENE MICHEL HOLDER, M.D.

Eugene Michel Holder, M.D., Memphis; Memphis Hospital Medical College, 1894; aged seventy-seven; died December 16, 1946.

### PAUL DILLARD ELCAN, M.D.

Paul Dillard Elcan, M.D., Memphis; University of Tennessee School of Medicine, Memphis, 1920; aged fifty-two; died June, 1946.

### EDWARD CLARK, M.D.

Edward Clark, M.D., Celina; University of Tennessee School of Medicine, Nashville, 1907; aged sixty-nine; died December 29, 1946, following a long illness.

### TRENT ORIN HUFF, M.D.

Trent Orin Huff, M.D., Clinton; University of Tennessee School of Medicine, Memphis, 1934; aged forty-five; died January 6, 1947.

### SAMUEL EVANS MASSENGILL, M.D.

Samuel Evans Massengill, M.D., Bristol; University of Nashville Medical Department, 1899; aged seventy-six; died December 15, 1946.

### JOHN WILLIAM WALLACE, M.D.

John William Wallace, M.D., Johnson City; Lincoln Memorial University Medical

Department, Knoxville, 1892; aged seventy-six; died November 9, 1946.

### SIDNEY LEE MACKEY, M.D.

Sidney Lee Mackey, M.D., Johnson City; Memphis Hospital Medical College, 1903; aged sixty-five; died June 2, 1946.

### JAMES RODERICK BUTLER, M.D.

James Roderick Butler, M.D., Mountain City; aged fifty-seven; died September 28, 1946.

### ROBERT A. RANGE, M.D.

Robert A. Range, M.D., Elizabethton; Kentucky School of Medicine, Louisville, 1898; aged seventy-three; died August 30, 1946.

### PAYNE ALEXANDER TINSLEY, M.D.

Payne Alexander Tinsley, M.D., Dandridge; University of Louisville School of Medicine; aged eighty; died recently.

### EUGENE E. NORTHCUTT, M.D.

Eugene E. Northcutt, M.D., Newport; Vanderbilt University School of Medicine, Nashville, 1904; aged sixty-six; died December 23, 1946.

### EDWARD A. STANFIELD, JR., M.D.

Edward A. Stanfield, Jr., M.D., Memphis; University of Tennessee, School of Medicine, Memphis, 1926; aged forty-seven; died December 21, 1946.

### RESOLUTIONS OF REGRET ON THE DEATH OF DR. SID L. MACKEY

*Whereas*, it has pleased our heavenly Father, in his infinite wisdom, to remove from our midst Dr. Sid L. Mackey, who war for many years one of the Veterans Administration's leading physicians;

*We*, the members of the Washington, Carter, and Unicoi County Medical Society, bow in submission to the will of him who doeth all things well; but,

*Whereas*, Dr. Mackey was our beloved associate; an enthusiastic, loyal visitor at the County Medical Society meetings over a period of many years; and a consecrated Christian man whose influence for good was brought to bear, directly and indirectly,



upon the lives of thousands of men and women;

*We* express our heartfelt regret at his loss, and order that a copy of this resolution be placed upon the records of this society, and that a copy be transmitted to Dr. Mackey's surviving relations, to whom we express our deepest sympathy in their sorrow.

Done this 31st day of August, 1946.

JOHN L. HANKINS, M.D.,  
E. T. PEARSON, M.D.,  
ROBERT H. HARVEY, M.D.

#### RESOLUTIONS OF REGRET ON THE DEATH OF DR. J. W. WALLACE

*Whereas*, it has pleased our heavenly Father, in his infinite wisdom, to remove from our midst Dr. J. W. Wallace, who was for many years one of Johnson City's leading physicians;

*We*, the members of the Washington, Carter, and Unicoi County Medical Society, bow in submission to the will of him who doeth all things well; but,

*Whereas*, Dr. Wallace was our beloved associate; an enthusiastic, loyal visitor at the County Medical Society meetings over a period of many years; and a consecrated Christian man whose influence for good was brought to bear, directly and indirectly, upon the lives of thousands of men and women;

*We* express our heartfelt regret at his loss, and order that a copy of this resolution be placed upon the records of this society, and that a copy be transmitted to Dr. Wallace's surviving relations, to whom we express our deepest sympathy in their sorrow.

Done this 30th day of December, 1946.

JOHN L. HANKINS, M.D.,  
E. T. PEARSON, M.D.,  
ROBERT H. HARVEY, M.D.

### NEWS NOTES AND COMMENTS

#### AMERICAN BOARD OF OPHTHALMOLOGY

A directory of all diplomates to January 1, 1947, will be published shortly after that date.

This directory will be arranged alphabetically and geographically. No biographical material will be included.

Every effort will be made to make this directory accurate, and diplomates who have not already done so should notify the board office at once, stating their name and address exactly as they wish them listed.

EXECUTIVE OFFICE,  
*American Board of Ophthalmology,*  
*Cape Cottage, Maine.*

The Ciba Pharmaceutical Products, Inc., recently sent all the doctors in the state a Slyd-Rul. They have now called attention to the fact that there is one error made in the printing of the Slyd-Rul—the placing of a decimal point of the conversion from 0.4 grain to gram. This should read 0.025 gram, not 0.25. With this correction we are sure that members of the profession will find the Slyd-Rul a very convenient means of converting apothecary to metric units.

Dr. Willard O. Tirrill, Jr., announces the removal of his office to 1923 Hayes Street, Nashville, for the practice of obstetrics.

Dr. Irving R. Hillard announces the opening of his office at 601 Woodland Street, Nashville.

Dr. James A. Kirtley, Jr., and Dr. Charles C. Trabue IV announce the opening of offices at 104 Twentieth Avenue, North, Nashville, for the practice of surgery.

Dr. Joseph D. Anderson announces the opening of his office at 104 Twentieth Avenue, North, at Hayes Street, Nashville. Practice limited to gynecology and obstetrics.

The following surgeons were received into fellowship in the American College of Surgeons at the convocation held Friday evening, December 20, 1946, during the Clinical Congress in Cleveland:

Dr. John M. Aste, Memphis; Dr. Ray O. Fessey, Nashville; Dr. Orville C. Gass, Chattanooga; Dr. Moses W. Howard, Knoxville; Dr. Augustus McCravey, Chattanooga; Dr. Charles T. Read, Chattanooga; Dr. Oliver Perry Walker, Memphis.

## POSTGRADUATE STUDY

The gynecology program officially closed the night of Thursday, January 2 in Chattanooga, where Dr. J. R. B. Branch ended four years of postgraduate teaching to the medical profession in Tennessee. Doctor Branch will open a two years' course in Gynecology in the state of Oklahoma. His address will be, beginning February 1, 212 Plaza Court, Oklahoma City 3, Oklahoma.

Five groups or centers were included in this last circuit in Tennessee, namely: Sweetwater, Athens, Cleveland, Chattanooga, and a colored group in Chattanooga.

Besides other splendid features and results of this program in gynecology, a noticeable result is the number of consultations held by Doctor Branch during his two years of instruction. This is by far the largest of all previous courses. Some years ago in North Carolina, where these courses had operated for several years under this plan, a Baltimore physician, writing on the Carolina experience, stated: "When the physicians call an instructor in consultations freely, it means they have confidence in the instructor's practical knowledge of his subject." This being the case, this one feature or result is an indication of the high regard Tennessee physicians have for the instructor, Doctor Branch.

Many have inquired about the next course, as to the subject, etc. It is definitely agreed that the course will be "Psychiatry as Applied to the Practice of Medicine." The general outline of this course has been agreed upon both by the foundation and the committee. Within a few days, the committee is hopeful of having a confirmation of an instructor's appointment. The pattern of the next course will be quite different. Some of the high points are mentioned here:

1. All are agreed that the course should last twelve weeks instead of ten.
2. That only those centers having hospital facilities can be used.
3. That the course to be practical and useful to the physicians must be highly clinical and with demonstration of patients.
4. The use of case reports will be used.
5. Two out of the twelve weeks will be

given over entirely to clinical demonstrations.

6. The use of some consultants from our two medical schools may be advisable.

7. Local groups will need a strong committee organized for clinical purposes leading to the demonstrations.

Both the committee and the foundation are determined that this course shall be of practical value to our profession. If all will enter into it believing they shall acquire practical value from it and make the effort called for, it is the committee's feeling that a new field of medical practice will be opened to the general profession of our state. This is a program that will stress the physician-patient relationship. Hence, it applies to all branches and specialists and their work.

On behalf of our profession, appreciation is here expressed by our committee to our contributors who again have made the necessary funds ready for the next program, namely, the Commonwealth Fund of New York, the Tennessee State Health Department, Vanderbilt University School of Medicine, and the University of Tennessee College of Medicine, as well as the officials of our own State Medical Association. The interest and untiring efforts and assistance of our State Health Commissioner, Dr. R. H. Hutcheson, likewise the trustees, and the Health Commission are greatly appreciated for the support again offered in this next program.

This special study of mental problems by our state medical profession comes at a time when there is great need for it among the citizens of every state commonwealth who unquestionably should benefit by this study and efforts of the profession.

W. L. WILLIAMSON, M.D., *Chairman, Gynecology;*

W. C. COLBERT, M.D., *Chairman, Psychiatry as Applied to the Practice of Medicine;*

T. S. HILL, M.D., *Co-Chairman, Psychiatry as Applied to the Practice of Medicine;*

H. B. BRACKIN, M.D.;

EDWARD T. BRADING, M.D.;

O. N. BRYAN, M.D.;

FRANK H. LUTON, M.D.;  
J. O. MANIER, M.D.;  
A. M. PATTERSON, M.D.;  
E. G. WOOD, M.D.

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#### POSTGRADUATE TRAINING

The following is taken from an official announcement released by the Federal Security Agency, U. S. Public Health Service, for immediate release:

"Announcement is made by Surgeon General Thomas Parran of the U. S. Public Health Service that applications for the fellowships in postgraduate training for physicians . . . for the school year beginning in the fall of 1947 will be received at any time prior to May 1, 1947.

"These fellowships are made possible by a grant of \$228,400 from the National Foundation for Infantile Paralysis.

"The fellowships provide an academic year's training in an accredited school of public health and are open to men and women, citizens of the United States, under forty-five years of age. Graduates must be licensed to practice medicine in their states, or eligible for license, and must have completed at least a year's internship. The fellowships are not available to present employees of state or local health departments.

"Further details may be secured by writing to the Surgeon General, U. S. Public Health Service, Nineteenth and Constitution Avenue, N. W., Washington 25, D. C., Attention Public Health Training."

Very truly yours,

R. H. HUTCHESON, *Commissioner*.

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The American Medical Association is going to celebrate its centennial in Atlantic City, June 9-13, 1947. Elaborate plans are being made for this celebration.

Only fellows and invited guests are eligible to attend. Membership in your state society is the primary qualification for fellowship in the American Medical Association. Fellowship dues and subscription to *The Journal of the American Medical Association* are both included in one annual payment of \$8.00, which is the cost of *The*

*Journal* to subscribers who are not fellows.

If you are not a fellow and plan to attend the Atlantic City session, which will be a milestone in medical history, you can save yourself considerable time and confusion when registering, if you will write now to the American Medical Association, 535 North Dearborn Street, Chicago 10, and ask if you are eligible to become a fellow.

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#### MINUTES OF WASHINGTON, CARTER, AND UNICOI COUNTY MEDICAL SOCIETY

*Meeting October 3, 1946.* Held at Johnson City Country Club. New members voted into the society: Drs. John F. Busey, Leon C. Hoskins, John M. Wilson. Guest speaker: Dr. Oscar Swineford, Jr., University of Virginia. Topic: "The Management of Asthma."

*Meeting November 7, 1946.* The society was the guest of the Veterans Administration at Mountain Home. Speaker: Dr. James Mason, head of the Medical Personnel Division of the Veterans Administration. Topic: "Activities of the Medical Department During the Invasion of France."

*Meeting December 5, 1946.* Held at Johnson City Country Club. New member: Dr. James E. Shull. Assessment of \$10.00 voted for each member, fund to be used to assist prosecution of quacks. Case report by Dr. Leslie B. Heard of a woman who had a full-term abdominal pregnancy and who was delivered by section of a viable child. Guest speaker: Dr. J. S. Felton, Clinton, Tennessee. Topic: "A Complete Industrial Health Program."

Election of officers for 1947: Dr. Charles P. Wofford, president; Dr. Leslie B. Herd, vice-president for Carter County; Dr. James E. Shull, vice-president for Unicoi County; Dr. H. B. Cupp, secretary-treasurer; Dr. E. L. Caudill, member of Board of Censors.

CHARLES P. WOFFORD, M.D.,  
*Secretary-Treasurer.*

The newly produced motion picture, "A New Horizon," filmed by RKO-Pathé for the National Foundation for Infantile Paralysis and approved by the American College of Surgeons, is now available for the medical profession.



The film depicts a complete physical therapy department and shows the way in which it is utilized in the modern hospital.

The 16mm sound prints of this film can be secured on a loan basis or purchased, the price being \$21.00. Address The National Foundation for Infantile Paralysis, 120 Broadway, New York 5, New York.

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#### NATIONAL CONFERENCE ON MEDICAL SERVICE

The Twentieth Annual Meeting of the National Conference on Medical Service will be held at the Palmer House, Chicago, Illinois, on February 9. Registration will commence at 9:00 A.M., and the program will include discussions in the fields on national affairs, economics, and medical education. All physicians are invited to attend; there is no registration fee. Dr. Cleon A. Nafe, Indianapolis, is president of the conference, and Creighton Barker, New Haven, is the secretary.

## MEDICAL SOCIETIES

#### WASHINGTON-CARTER-UNICOI COUNTIES

The first monthly meeting of the Washington-Carter-Unicoi County Medical Society in 1947 was held in the private dining room of the John Sevier Hotel on January 2.

Dr. J. R. Bowman, resident surgeon at Children's Hospital, Boston, Massachusetts, read an interesting paper on the subject, "The Surgery of Congenital Heart Disease." Fifty-four members and visitors were present from the Tri-County and surrounding counties. The scientific session was preceded by a Dutch dinner.

H. B. CUPP, M.D., *Secretary*.

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#### Knox County:

December 17—"The Status of Streptomycin and Collapse Therapy in the Treatment of Tuberculosis," by Dr. David H. Waterman. Discussion by Dr. Domm.

January 7—Installation of new officers. Presidential address by Dr. W. R. Cross.

#### Davidson County:

December 17—"Value of Penicillin in Surgery," by Dr. Carl Crutchfield. Discussion by Drs. N. S. Shofner and L. W. Edwards.

January 7—Banquet honoring the newly elected officers.

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#### Bedford County:

The Bedford County Medical Society met in regular session on December 19, 1946, closing out what we consider a very interesting year. We had twelve interesting papers and free discussion of all. We are looking forward to even a better year in 1947.

We have had two physicians from the army to locate with us this year.

At our December meeting the following officers were elected: Dr. Albert Cooper, president; Dr. Taylor Farrar, vice-president; Dr. W. H. Avery, secretary-treasurer.

W. H. AVERY, M.D., *Secretary*.

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#### THE SOUTHEASTERN SURGICAL CONGRESS

The Fifteenth Annual Assembly of the Southeastern Surgical Congress will be held in Louisville, Kentucky, at the Brown Hotel, on March 10, 11, 12, 1947.

For further information write to B. T. Beasley, M.D., Secretary-Treasurer, The Southeastern Surgical Congress, 701 Hurt Building, Atlanta, Georgia.

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#### CONSOLIDATED MEDICAL ASSEMBLY OF WEST TENNESSEE

At our December meeting the following resolution was made by Dr. Hunter M. Steadman of Henderson, Tennessee, and seconded by Doctors Crook, Pearce, and Moore, and voted unanimously.

1. That the Consolidated Medical Assembly record and publish its vehement opposition to the practice of medicine by unlicensed persons.

2. That the Consolidated Medical Assembly initiate appropriate legal authority of such violations.

3. That more stringent penalties be attached to such unlawful practices.

I trust that this resolution will be given

sincere and earnest attention at the earliest possible moment.

Yours very fraternally,

S. M. HERRON, M.D.,

*Secretary.*

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TO THE SECRETARIES OF ALL COMPONENT  
COUNTY MEDICAL SOCIETIES

The following resolution was presented to the House of Delegates of the American Medical Association at its Supplemental Session held in Chicago, December 9 to 11, 1946. This was referred to the Reference Committee on Legislation and Public Relations, and the Reference Committee recommended to the House that it be referred to the Board of Trustees of the Association for future action. The House of Delegates adopted the recommendation of the Reference Committee.

*"Whereas*, Public relations, as pertains to organized medicine, has a most important field of effort in reaching and giving information to and receiving suggestions from the rank and file of doctors who give medical service to the public the country over; and

*"Whereas*, Efforts in this direction have been so successfully carried on by the secretaries' conferences sponsored by several of the state medical societies; and

*"Whereas*, There is no national group at present functioning in this capacity; therefore be it

*"Resolved*, That the American Medical Association sponsor a national conference of officers of county medical societies which shall meet yearly just preceding the annual session of the House of Delegates of the American Medical Association for the purpose of bringing to the annual session the diverse problems of the various localities, the exchange of ideas which would be helpful to the state conferences, in such matters as voluntary health insurance plans, hospitalization plans, construction of new hospitals in needed places, and improvement in medical facilities, rural health activities, nurs-

ing activities, and the activities of the various Councils of the American Medical Association."

The Board of Trustees, after consideration of the resolution, plans to have a meeting of this nature in Atlantic City, New Jersey, probably on Sunday, June 8, 1947.

This letter is for your information so that, should you plan to attend the Centennial Celebration at Atlantic City, you can arrange to arrive one day early for the Sunday meeting. I shall write you later concerning the definite hour and place of the meeting.

With the season's greetings from the staff at headquarters, I am

Sincerely,

GEORGE F. LULL, *Secretary*,

*American Medical Association.*

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*Sullivan-Johnson:*

The Sullivan-Johnson County Medical Society held its regular meeting at the Kingsport Inn, December 4, 1946, at 6:30 P.M. Dinner was served at seven o'clock.

The meeting was called to order by Dr. J. V. Hodge, and the minutes of the last meeting were read and approved. Five new members were voted into the society. The following physicians were approved: Dr. Shelton Reed, Dr. W. C. Eversole, Dr. Homer P. Williams, Dr. Norman G. Patterson, and Dr. Frank W. Sutterlin. Dr. William A. Wiley, acting secretary of the medical staff of Holston Valley Community Hospital, read a letter addressed to Governor McCord of Tennessee. This letter stressed our cooperation and interest in the repeal of the 1943 law of naturopathy in Tennessee. A motion was made and seconded by members of the society for the secretary to write a similar letter representing the county medical society, and a separate letter to the investigating medical committee in Nashville stressing our interest in the investigation of osteopathic and chiropractic practices in the state of Tennessee.

Dr. Nat Copenhaver of Bristol was elected president for 1947; Dr. B. Roy Howard, vice-president; and Dr. Harlis O. Bolling was re-elected secretary-treasurer.

The scientific program consisted of a movie arranged by Dr. Wiley. There being no further business, the meeting adjourned.

HARLIS O. BOLLING, M.D.,

*Secretary-Treasurer.*

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LIST OF NEWLY ELECTED OFFICERS FOR  
1947

*Anderson-Campbell:*

M. L. Davis, La Follette, President  
George B. Brown, Jellico, Vice-President  
A. W. Bishop, Clinton, Vice-President  
R. C. Pryse, La Follette, Secretary-Treasurer

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*Bedford County:*

Albert Cooper, Shelbyville, President  
Taylor Farrar, Shelbyville, Vice-President  
W. H. Avery, Shelbyville, Secretary-Treasurer

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*Cocke County:*

W. C. Ruble, Newport, President  
Drew A. Mims, Newport, Secretary

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*Davidson County:*

John C. Burch, Nashville, President  
Fowler Hollabaugh, Nashville, Vice-President  
Robert N. Buchanan, Jr., Nashville, Secretary-Treasurer

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*Dyer, Lake, and Crockett:*

J. Paul Baird, Dyersburg, President  
C. A. Turner, Dyersburg, Vice-President  
(Dyer County)  
W. H. Stallings, Friendship, Vice-President  
(Crockett County)  
W. T. Rainey, Tiptonville, Vice-President  
(Lake County)  
David Taylor, Dyersburg, Secretary-Treasurer

*Jackson County:*

R. C. Gaw, Gainesboro, President  
L. R. Anderson, Gainesboro, Vice-President  
L. R. Dudley, Gainesboro, Secretary

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*Knox County:*

G. A. Williamson, Knoxville, President  
Richard McIlwaine, Knoxville, President  
Ralph H. Monger, Knoxville, Secretary-Treasurer

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*Montgomery County:*

C. N. Keatts, Indian Mound, President  
Edward R. Atkinson, Clarksville, Vice-President  
A. F. Russell, Clarksville, Secretary-Treasurer

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*Putnam County:*

H. H. Taylor, Cookeville, President  
W. A. Hensley, Jr., Cookeville, Vice-President  
Thurman Shipley, Cookeville, Secretary-Treasurer

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*Robertson County:*

W. P. Stone, Springfield, President  
A. R. Kempf, Springfield, Vice-President  
John S. Freeman, Springfield, Secretary-Treasurer

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*Shelby County:*

A. F. Cooper, Memphis, President  
H. W. Qualls, Memphis, President-Elect  
L. C. Sanders, Memphis, Vice-President  
Henry C. Gotten, Memphis, Secretary  
C. V. Croswell, Memphis, Treasurer

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*Smith County:*

R. E. Key, Carthage, President  
H. O. Mason, Watertown, Vice-President  
E. D. Gross, Chestnut Mound, Secretary



*Washington, Carter, and Unicoi Counties:*

Charles P. Wofford, Johnson City, President

Leslie B. Herd, Elizabethton, Vice-President (Carter County)

James S. Shull, Erwin, Vice-President (Unicoi County)

H. B. Cupp, Mountain Home, Secretary-Treasurer

*White, Warren, and Van Buren Counties:*

B. C. Smoot, McMinnville, President

Paul Goodman, McMinnville, Vice-President (Warren County)

W. H. Andrews, Sparta, Vice-President (White County)

B. L. Upchurch, Sparta, Executive Secretary

# CHICAGO MEDICAL SOCIETY THIRD ANNUAL CLINICAL CONFERENCE

The tremendous success of the preceding Clinical Conferences has served to stimulate the 1947 conference committee to greater efforts in their endeavor to surpass those meetings.

The program committee has selected well-known medical men to present currently interesting subjects of appeal to all physicians, but more particularly to the general practitioner.

Scientific exhibitors from Chicago and adjoining medical centers have been invited to participate in this outstanding event.

Commercial exhibitors have been carefully selected from an imposing array of applicants, and a sufficient number will be designated to completely fill the exhibit space.

The banquet committee has extended an invitation to a prominent national speaker.

The Chicago Medical Society is justifiably proud of these conferences and is happy to invite you and your fellow medical men to attend this, its Third Annual Clinical Conference.

## ABSTRACTS OF CURRENT LITERATURE

### ANESTHESIA

By H. M. AUSHERMAN, M.D.  
Medical Arts Building, Chattanooga

Aspiration of Stomach Contents into Lungs During Obstetric Anesthesia. C. L. Mendolson. *American Journal of Obstetrics and Gynecology*, Vol. 41, pp. 179-348.

Mendolson says that there have been sixty-six instances of aspiration of stomach contents into the lungs in 44,016 pregnancies, an incidence of 0.15 per cent. Two entirely different syndromes may follow aspiration. Aspiration of solid food usually produces laryngeal or bronchial obstruction. Complete obstruction produces suffocation. Incomplete obstruction produces massive atelectasis with cyanosis, tachycardia, dyspnea, mediastinal shift, and signs of consolidation over the collapsed area. Obstruction should be promptly relieved either indirectly by external stimulation, with encouragement of coughing, or directly with the aid of suction and endoscopic removal. Aspiration of liquid material produces an asthma-like syndrome. There are cyanosis, tachycardia, and dyspnea, but no mediastinal shift or massive atelectasis. Wheezes, rales, and bronchi are heard. X-rays reveal irregular, soft, mottled densities without mediastinal shift. The picture has been misinterpreted as bronchopneumonia, tuberculosis, fungous infection, and even mediastitis. Progressive cardiac embarrassment and pulmonary edema may supervene. Animal experiments indicate that hydrochloric acid is responsible for these changes. Treatment should be directed against the bronchial spasm and cardiac embarrassment. Oxygen, atropine, epinephrine, and aminophylline will accomplish these objectives. Should cardiac failure develop, rapid intravenous digitalization is indicated. The circulatory burden may be relieved by the application of tourniquets to the extremities to produce the effect of a bloodless phlebotomy. Aspiration of stomach contents into the lungs may be avoided by withholding oral feeding during labor, by wider use of local anesthesia when feasible, by alkalization of stomach contents and emptying the stomach prior to the administration of a general anesthetic, by competent administration of general anesthesia, and by adequate delivery room equipment, including transparent anesthetic masks, tiltable delivery table, suction, laryngoscope, and bronchoscope.

## CARDIOLOGY

By J. ALLEN KENNEDY, M.D.  
Bennie-Dillon Building, Nashville

Therapeutic Symposium—Cardiovascular Disease. William J. Kerr, M.D., San Francisco. *Journal of the American Medical Association*, Vol. 132, pp. 972-973, December 21, 1946.

Some of the noteworthy advances in the treatment of cardiovascular disease have been made by surgeons in the field of congenital heart disease. Patent ductus arteriosus, when attacked by skillful surgeons at an early age, removes this hazard from later life. Coarctation of the aorta has likewise responded to skillful surgery. Tetralogy of Fallot and some other congenital lesions accompanied by cyanosis may be improved by anastomosing a branch of the aorta to the pulmonary artery. During the war, surgeons had unusual opportunity to treat patients with arteriovenous fistulas successfully.

Recently interest has developed for sympathectomy in hypertension. Many such operations have been devised and performed by skilled surgeons. Surgeons still do not know how to select patients who may be expected to benefit by this procedure, which is a major operation. The percentage of good results is about the same as after the use of other methods employed with equal enthusiasm and diligence.

Among the recent medical advances is the recognition of the great value of an extremely low sodium intake in the treatment of edema. It is better to put the edematous and orthopneic patient in a comfortable chair than to force him to remain in a cramped position in bed. "Soggy feet are better than soggy lungs."

Anticoagulants are being recommended for patients with coronary occlusion. If they are to be used, they should be instituted within the first forty-eight hours. At present dicumarol appears to be the most suitable anticoagulant, but it should be used only under the most careful laboratory control. Thrombosis and pulmonary embolism from clots and peripheral veins may likewise be controlled by the proper use of anticoagulants. The wholesale ligation of veins as a prophylactic measure would not seem to be a reasonable procedure.

There has been increasing appreciation of the value of morphine intravenously for the pain of coronary occlusion. The author is convinced that protracted pain is of major importance in causing the state of shock.

The treatment of angina pectoris by methods which promote the return of blood to the heart muscle is at present the only rational approach to the problem.

The purified glycosides of digitalis have all but eliminated the uncertain methods of standardization formerly used.

Salicylates have been employed in large doses recently in the treatment of rheumatic fever. The symptoms have been controlled by this method, but convincing proof is lacking that cardiac damage has been lessened. The value of sulfonamide drugs in preventing recurrences of rheumatic fever has not yet been determined, but they appear to be useful when given continuously in small doses.

A solution to the etiology of rheumatic fever is being approached, and when the constitutional factors are better understood, one should expect to terminate an active attack or to interrupt the process after the streptococcus has started but before irreparable damage has been done.

## DERMATOLOGY

By CLARENCE SHAW, M.D.  
1013 Provident Building  
Chattanooga 2

Treatment of Early Syphilis. Major Monroe J. Romansky, M.C., and Charles R. Rein, M.D. *Journal of American Medical Association*, Vol. 132, Page 847, December 7, 1946.

The authors treated seventy-five patients with early syphilis with daily intramuscular injections of 300,000 units of calcium penicillin in beeswax and peanut oil for eight days. Fifty-six had primary syphilis, of whom only six were seronegative, while the remaining nineteen had secondary syphilis. Penicillin was continuously present in the blood during the eight days of treatment, and for six days following the last injection, it was present in the urine. Dark fields became negative in ten to thirty-six hours after the initial injection, and both primary and secondary lesions were healed in three to twelve days. Thirty-nine per cent of the patients developed a Herxheimer reaction.

In sixty of the seventy-five cases, followed for a sufficient length of time to be evaluated, there was a satisfactory response in fifty-eight, while two patients with secondary syphilis were classified as failures. There were two authentic reinfections.

Factors which influenced the length of time required to attain seronegativity are as follows: (1) The stage of the disease at the time treatment was instituted (examinations of patients with primary syphilis gave earlier negative results than those with secondary syphilis. (2) The serologic titer at the onset of treatment (examinations of patients with low-titered reactions gave negative results earlier than those with high-titered reactions). (3) Sensitivity of the tests employed (tests with greater sensitivity maintained seropositivity for a longer period than those with less sensitive tests).

All patients receiving penicillin therapy should have blood tests at least once a month, in order to detect serologic relapse and impending clinical relapse; the former usually precedes the latter by

about a month. Soreness to pressure usually follows at the injection site, disappearing within two or three days. It is considered undesirable to massage the injection site, since diffusion of the material accelerates absorption and increases local soreness.

Considerably less reaction occurs when the preparation is given intramuscularly than when given subcutaneously. Only two patients in the group had allergic reactions, both developing urticaria five to six days after the last injection, and which reached its peak on the fourth day. Benadryl is effective in relieving the reaction, and cold compresses are more effective than heat in relieving the soreness at the site of injection.

The material is drawn into a Luer-Locke syringe, allowed to cool to room temperature, and injected with a twenty-gauge needle without rewarming. The preparation is so stable that it can be kept at room temperature for at least a year.

Although the number of patients in the study is too small to be statistically significant, the results obtained suggest a favorable trend.

## GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.  
649 Doctors Building, Nashville

**Pathologic Findings in Genital Bleeding Two or More Years After Spontaneous Cessation of Menstruation.**  
David B. Cheek and James E. Davis, Baltimore, Maryland. *American Journal of Obstetrics and Gynecology*, Vol. 52, No. 5, p. 756, November, 1946.

The authors present a brief review of the literature and survey 514 cases of genital bleeding two or more years after cessation of menstruation which were observed at Johns Hopkins Hospital. Of the 514 cases presented, 36.1 per cent had malignant lesions. This is a lower figure than that usually quoted, and reflects increasing understanding on the part of the patient of the danger of postmenopausal bleeding, better understanding and cooperation on the part of the attending physicians in referring patients for study, and possibly a greater incidence of benign bleeding from hormonal stimulation. No significant difference in etiology is noted when the group is divided according to race, except that cervical prolapse associated with bleeding was uncommon in the Negro race. The average age of cessation of menstruation was 47.8 years. There is an increasing percentage of malignancy with increasing age of the patient at the time of examination. There is no relation of duration of amenorrhea to the casual lesion. Duration of bleeding ranges from one day to seventeen years and bears no relation to pathology. Type of bleeding varies from spotting to profuse hemorrhage and is found to have no significance in determining the etiology. Bleeding after the menopause may come from anywhere in the genital tract. To rule out malignancy a complete study, including uterine

curettage and biopsy of the cervix, is imperative in all cases regardless of findings on pelvic examinations.

## INDUSTRIAL MEDICINE

By JEAN SPENCER FELTON, M.D.  
Monsanto Chemical Company  
Clinton Laboratories  
Oak Ridge

**Progress in Industrial Ophthalmology.** Hedwig S. Kuhn. *Journal of Indiana State Medical Association*, Vol. 39, p. 221, May, 1946.

Doctor Kuhn, consulting occupational ophthalmologist of Hammond, Indiana, states that prior to the war the employer was responsible for the eyes of his workers only as related to (a) care of injuries; (b) study of toxic products; and (c) medicolegal procedures. Attention must be directed now to the many occupational visual problems encountered in industry, by management, the employee, and medicine. With the labor shortages encountered during the war, the blanket formula of "normal" distance acuity was no longer feasible as a basis of admission. Modern thinking has demanded that an individual's visual skills be evaluated, and that this appraisal be added to the other capacities determined (aptitude, dexterity, coordination, etc.) in judging his potential as an employee. The production urgencies of the war necessitated understanding the relationship of visual quality to efficiency and safety.

Prescribing of reading glasses did not allow industrial utilization of the visually impaired worker—hence it was necessary to recognize the many work distances encountered and to correct refractive errors on this basis. New employees in specialized fields will need occupational correction—glasses used for a particular job, and left at the machine at the end of the workday. Careful correction has led to diminished labor turnover, increased production, and greater worker pay. As pointed out by Snell, "visual work requirements should be based on the minimum standards of vision found to be necessary for apt performance in specific occupations."

Battery type instrumentation was developed to determine if applicants could meet the visual requirements of the job. With the interpretation of these findings into the picture of the visual demands of the occupation, a new concept of the relationship between the consulting ophthalmologist and plant arose. An eye-conscious management has resulted from "needling" by the War Products Board, insurance carriers, and labor unions. The time has come when the complete program of the prescribing and dispensing of prescription-hardened lenses must be taken over by the profession and out of the lay storeroom. With the adoption of an "eyes for the job" philosophy, a visually impaired applicant can work because, through the cooperation of medicine, industry, and psychology, several jobs will be available fitting his specific visual capabilities.



A firsthand knowledge of the employee's work environment is a must for any specialist doing industrial consulting—he must get into the plant. This new field is challenging and exciting, for in industry is a new laboratory wherein may be studied the specific categories of occupational ophthalmology: (1) proper first aid for eye injuries; (2) revised surgical care of eye injuries and medical care of burns; (3) medicolegal procedures; (4) matching of visual capacities and job demands by (a) mass testing; (b) job analysis; (c) refraction for work distance; (d) orthoptic training; and (e) solving "visual bottlenecks" in production and inspection.

**Bronchiolitis Resulting from the Handling of Bagasse.**  
Donald Hunter and Kenneth Perry, M.A. *British Journal of Industrial Medicine*, Vol. 3, p. 64, April, 1946.

Doctors Hunter and Perry of the Medical Research Council of Great Britain describe the clinical picture resulting from the inhalation of bagasse dust. Bagasse is sugar cane after the sugar has been extracted. Because of fiber toughness and insulating qualities it is used in making wall board. The cane used comes from Louisiana and is shipped to England in bales. A shredder was substituted in 1939 for the wet process of bale breaking (made necessary by wartime shipping changes), and this resulted in a tremendously dusty process. Although amorphous silica and quartz were present in small quantities in the bagasse, no probability of silicosis existed.

In 1940, after installation of the dry bale breaking machinery, cases of respiratory illness began to appear among the workers. Symptoms occurred after eight weeks' exposure, and the clinical picture was that of an acute febrile illness with extreme dyspnea, cough with scanty black, stringy sputum, and occasional hemoptysis. The characteristics of the chest film were a miliary mottling scattered throughout both lungs with heavy hilar shadows. The literature is reviewed and case histories are offered of ten individuals affected. The disease is an acute bronchiolitis, followed by collapse and pneumonia.

In 1941 a wet process was instituted, and local exhaust ventilation was added. Only one case has occurred since this period.

## OBSTETRICS

By MILTON SMITH LEWIS, M.D.  
Bennie-Dillon Building, Nashville

**Spinal Anesthesia in Vaginal Delivery; A Report of 1,547 Cases.** R. T. Weaver, D. L. Adamson, and F. L. Johnson. *American Journal of Obstetrics and Gynecology*, Vol. 51, pp. 764-770, 1946.

It is the authors' belief that there is a useful place in obstetrics for spinal anesthesia in delivery and that the dangers in its use have been greatly exaggerated. Therefore, they present in this paper

their results with small doses of spinal anesthesia during vaginal delivery in 1,547 patients, with reference to fetal and maternal mortality, difficulties, dangers, and possible advantages. These patients were delivered during the ten-year period from January, 1, 1935, to December 31, 1944.

There has been a notable increase in the number and percentage of patients delivered by this means at the authors' hospital. In 1935, only two patients (0.02 per cent of the total deliveries) had spinal anesthesia, whereas in 1944, of 3,410 deliveries, nearly 22 per cent received spinal anesthesia.

The technique is essentially the same as for intradural block. The anesthetic of choice is novocain crystals dissolved in about two cubic centimeters of spinal fluid, injected into the third or fourth lumbar interspace without barbotage. The small dose employed, fifty milligrams, is sufficient to give a painless delivery, but does not materially decrease uterine contractions. The authors have found that difficulty in obtaining a satisfactory tap is an objection, more imaginary than real, to the use of spinal anesthesia.

In this series 1,547 patients receiving spinal anesthesia, there were sixty-three "failures," or 4.2 per cent. These include all patients receiving any other anesthetic whatever. There were five patients recorded as having some form of shock, but only one of these cases fits the commonly accepted picture of procaine hydrochloride shock. There were no maternal deaths in the entire series, either immediate or during the puerperium, from any cause. There were forty-three stillborn babies and seventeen neonatal deaths, giving a combined fetal mortality of 3.7 per cent. During the same period of time, the combined percentage in the authors' hospital was 5.1 per cent. During the past five years, when spinal anesthesia was used with increasing frequency, there was a progressive drop in stillbirths and neonatal deaths from 5.7 per cent in 1940 to 4.7 per cent in 1944.

In analyzing the forty-three stillbirths, it was found that in only eight patients was there a reasonable chance of obtaining a normal baby when the anesthesia was given. Of the eight, two were breech presentations in primiparas, one an internal podalic version after a long labor, one an abnormally large baby, one a twenty-seven-week premature, one had the cord twice around its neck and very tight, and two were midforceps deliveries. Of the seventeen neonatal deaths, eleven had a considerable degree of prematurity, three had congenital abnormalities incompatible with life, one had hemorrhagic diathesis, one died of bronchopneumonia, and one from cerebral hemorrhage. Careful review of the hospital records fails to show the anesthetic drug as a contributing factor in any of these fatalities.

From experience with this series of patients, the following conclusions have been drawn:

1. Spinal anesthesia in small doses is a safe anesthetic for vaginal delivery.

2. Fetal loss is decreased. It is of special value in premature babies.
3. Analgesic drugs can be used with less danger.
4. Rapid pain relief is experienced in over ninety-five per cent of patients.
5. Obtaining an anesthetist is unnecessary.
6. Third stage and post-partum bleeding is diminished.
7. Nursing case is simplified.
8. Patients' satisfaction and approval are almost unanimous.

## OPHTHALMOLOGY

By ROBERT J. WARNER, M.D.  
Doctors Building, Nashville

The Etiology and Treatment of Blepharitis: A Study in Military Personnel. Phillips Thygeson. *American Journal of Ophthalmology*, November, 1946.

Blepharitis was the most common external eye infection seen in military personnel. Laboratory and clinical studies of 350 cases of blepharitis indicate that the three important types are the staphylococcic, the seborrheic blepharitis, and the diplobacillary. Staphylococcic blepharitis is often unilateral, and is often associated with chalazion, hordeolum, and ulceration. It is characterized by small hard scales, which are tenacious and difficult to remove. An associated keratoconjunctivitis is almost the rule. Temporary or permanent loss of cilia, and associated with otitis externa, impetigo, sycosis barba, and acne vulgaris are common. There is burning, itching, and photophobia.

With seborrheic blepharitis, there is seborrhea capitis, and usually an associated seborrheic dermatitis of brow and ears, the lesion is always bilateral, nonulcerative, and squamous, the scales are greasy and easy to rub off, and associated conjunctivitis is minimal if present. There are no complicating inflammations. The skin gives evidence of increased seborrhea, and discomfort is minimal.

Diplobacillary blepharitis is characterized by maceration of the skin at the inner and outer canthus and associated conjunctivitis. The infection is superficial, there is no ulceration, and no inflammation of the Meibomian glands.

The finding of budding yeast forms, *pityrosporum ovale*, was considered diagnostic of seborrheic blepharitis. Routine bromoscopic examinations of the lid margin in chronic conjunctivitis revealed a high incidence of mild and subclinical blepharitis, usually staphylococcic. There is no evidence that vitamin deficiency, refractive error, or allergy play significant roles.

## ROENTGENOLOGY

By P. H. DIETRICH, M.D.  
508 Medical Arts Building, Chattanooga

Pulmonary Adenomatosis. Lester W. Paul, M.D., and Gorton Ritchie, M.D. *Radiology*, Vol. 47, pp. 334-343, October, 1946.

This article reviews the pathologic, clinical, and roentgen aspects of pulmonary adenomatosis in man and reports five cases of this rare disease.

Characterized by the development of multiple nodular adenomatous tumors or by a diffuse hyperplasia of the pulmonary alveolar lining cells, the disease closely resembles histologically an infectious disease of the lungs which is widely encountered in sheep and to a lesser degree in some other animals and known as jaagsiekte, epizootic adenomatosis, and Montana progressive pneumonia of sheep.

The authors differentiate cases of similar histological nature into (1) those presenting metastases either (a) located in the bronchial lymph nodes, or (b) widely disseminated throughout the body, and (2) those in which no metastases occur. This discussion is limited to the latter "benign" type.

The disease is infectious and endemic in many areas throughout the world. The causative organism has not yet been found, but it is the opinion of many investigators that a virus is responsible.

The typical pathologic lesion consists of nodules of consolidation scattered throughout the lungs and usually grossly mistaken for patches of pneumonia. Microscopically these consolidations are found to be localized abnormal lining in the alveoli. This lining consists of low or moderately high cuboidal epithelium, the cells of which tend to be slightly pear-shaped and to form papillary projections into the alveolar spaces. The alveolar walls in these nodules are thickened and edematous, and the connective tissue is increased.

Most reported cases have occurred in the cancer age and the duration a matter of months or years. The onset, usually insidious, may resemble an acute respiratory infection. Symptoms consist of dyspnea which may be out of all proportion to the pulmonary involvement as roentgenographically demonstrated, cough productive of abundant, thin, watery, or mucoid sputum, loss of weight and strength, fever, and anorexia. Hemoptysis did not occur, but blood-streaked sputum may occur in the terminal stage.

Roentgenographic appearance occurring in two forms is not characteristic. In one form the area or areas of homogeneous density resemble pneumonic consolidation. They seldom have a lobar distribution, but are often bilateral and extensive and may involve most of the lung fields. Atelectasis is uncommon and may differentiate this condition, if unilateral, from bronchogenic carcinoma.

In the second form the consolidated areas do not appear sharply circumscribed but have hazy out-

line and closely resemble those of metastatic carcinoma.

The differential diagnosis between this disease and sarcoidosis, Hodgkin's disease, pulmonary tuberculosis, fungus infection, silicosis, and carcinoma is briefly discussed.

Analysis of the five reported cases leads these investigators to conclude that:

1. The abnormal epithelium of adenomatosis is derived, in some cases at least, from bronchial epithelium.

2. Adenomatosis constitutes in certain cases a transitional form between normal lung and carcinoma and must, therefore, be regarded as a potentially precancerous lesion.

## S U R G E R Y

By R. G. WATERHOUSE, M.D.  
Medical Arts Bldg., Knoxville

**Inguinal Herniorrhaphy from the Intra-Abdominal Perspective.** P. Jacobson. Retention of the Sac and Intact External Ring, and a Means for Proving the Adequacy of the Repair. *American Journal of Surgery*, Vol. 71, p. 797, 1946.

In this article the author describes an operative plan for the intra-abdominal repair of inguinal hernia. An oblique inguinal incision is used, the abdominal inguinal ring being the mid-point. The aponeurosis of the external oblique muscle is split in the direction of its fibers just medial to the inguinal canal, but the external inguinal ring is not opened. The fibers of the internal oblique and transversus abdominis muscle are split as in a

McBurney incision, just above the abdominal inguinal ring. The peritoneum is then opened transversely, also just above the inguinal ring. A finger is inserted into the hernial sac and the inguinal structures are examined. The finger is then withdrawn and reinserted into the peritoneal cavity behind the sac, and pressure is exerted against the parietal peritoneum at the insertion of the rectus into the pubis, laterally to the pubic tubercle, the superior pubic ligament, the lacunar and inguinal ligaments, the spermatic fascia, and the area behind the cord including the inguinal ring, to probe for a weak place. If none is found (in fifty per cent of the author's cases), it is assumed that the inguinal region is adequate and no reconstruction is necessary. If defects are found, the proper structures are approximated, and the author prefers the use of the suprapubic ligament to the more conventional use of the inguinal ligament. After it has been ascertained that the reconstruction is satisfactory by the reintroduction of a finger into the abdominal cavity, the hernial sac is excluded from the cavity by suturing the upper margin of the peritoneum to the area just below the neck of the sac. The hernial sac is then opened as far as can be reached and simply flattened. The upper edge is then included in the few sutures used to close the internal oblique and transversus muscles. The external oblique aponeurosis and the skin are closed. Thus the cord is not disturbed.

The author believes that this approach to the repair of inguinal hernia is of great assistance in determining what will be necessary to create an effective barrier against recurrence and also if the barrier has been erected.

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## AN ANALYSIS OF 107 CESAREAN SECTIONS\*

RICHARD B. AUSTIN, III, B.S., M.D.,† Nashville

### SOURCE OF MATERIAL

All cesarean sections performed at Protestant Hospital during the period from January 1, 1938, to September 1, 1946, were reviewed. This period was selected because our present system of filing has been in existence for that period of time.

### INCIDENCE

During this period there were 107 cesarean sections in 5,663 births for a section rate of 1.89 per cent. This rate compares favorably with the rates reported from other localities. Some of these rates are as follows: University of Maryland,<sup>1</sup> 2.1 per cent; Oakland, California,<sup>2</sup> 4.07 per cent. Waters<sup>3</sup> states that the section rate in good hospitals and clinics should not exceed 5 per cent.

Cases occurred by years as follows:

1938	4 cases
1939	8 cases
1940	14 cases
1941	9 cases
1942	12 cases
1943	18 cases
1944	7 cases
1945	19 cases
1946	16 cases

Consultations began to appear in the records in 1939. From the above figures one can see that cases were not indiscriminately put under the knife prior to this time—in fact, the incidence of sections seems to be increasing. It would be interesting to know what the section rate was prior to 1938, so that some comparison could be made as to the effect of consultations on the incidence of sections. At the present time a cesarean section cannot be performed at this hospital unless two consultants agree upon it, and one of the consultants must be an obstetrician.

Fifty-six of these sections were in primiparas and fifty-one were in multiparas. Seventeen of these women had had a previous section, and in one there was a history of three previous sections.

### INDICATIONS FOR CESAREAN SECTION

The indications for cesarean sections in this series were as follows:

1. Cephalopelvic Disproportion	33	(30.8%)
a. Contracted Pelvis	16	
b. Flat Pelvis	2	
c. Funnel Pelvis	1	
d. Hydrocephalus	1	
e. Unclassified	12	
2. Placenta Praevia	24	(22.4%)
a. Centralis	6	
b. Lateralis	2	
c. Marginalis	7	
d. Unclassified	9	
3. Toxemia of Pregnancy	12	(11.9%)
4. Eclampsia	7	(6.55%)

\*Read in Staff Meeting, Protestant Hospital, Nashville, September 20, 1946.

†Assistant Resident Physician, Protestant Hospital, Nashville.



5. Pre-eclampsia	3	(2.8%)
6. Previous Section	4	(3.73%)
7. Pulmonary Tuberculosis	4	(3.73%)
8. Heart Disease	2	(1.86%)
a. Rheumatic	1	
b. Unclassified	1	
9. Two Previous Difficult Labors	1	(0.93%)
10. Dermoid Cyst of Right Ovary		
Blocking Pelvic Inlet	1	
11. Forty-eight hours in labor without dilatation or engagement	1	
12. Mild Toxemia of Pregnancy, with twin pregnancy and a previous section	1	
13. Acute Nephritis	1	
14. Chronic Nephritis	1	
15. Ruptured Uterus	1	
16. Abruptio Placenta	1	
17. Android Pelvis in Elderly primipara, with breech presentation	1	
18. Direct Mentum Posterior (forty-eight-hour test of labor)	1	
19. Persistent R. O. P. in an elderly (thirty-five years) Primipara	1	
20. Transverse Presentation (twenty-four hour labor without dilatation)	1	
21. Uterine Fibroid (size and location not given)	1	
22. Transverse Presentation and Acute Nephritis	1	
23. Bilateral Pulmonary Tuberculosis and Contracted Pelvis	1	
24. Transverse Presentation and Previous Section	1	
25. Brow Presentation and Massive Varicosities of Vulva	1	
26. Old Fracture of Spine with Cord damage, Ulceration of Vulva	1	

From the above figures we can see that the indications for cesarean section varied a great deal. The indications given above are the actual diagnoses taken from the operative records. Some of these are good indications and others are not. However, the purpose of this paper is not to discuss the indications for section. We see that cephalopelvic disproportion was the leading cause of section in this series with thirty-three cases. There were two additional cases which could have been placed in this classification, but were not because of other conditions associated with the pelvic condition. Placenta praevia was second with twenty-four cases, toxemia of pregnancy was third with twelve cases, and eclampsia was fourth with seven cases.

Since cephalopelvic disproportion was the

leading cause of sections, an attempt was made to determine the type of disproportion present. There were sixteen cases of contracted pelvis, two cases of flat pelvis, one case of funnel pelvis, and one case of hydrocephalus (diagnosed before section).

This study led to some interesting facts about the use of X-ray and pelvimetry. Here are some rather astonishing figures that were brought to light: nine of these cases went to surgery without X-ray or measurement of the pelvis; seventeen had X-ray only; thirty had no recorded measurements; three out of the total of thirty-three had X-ray and measurements recorded; and one had measurements only. It is not felt that these figures reflect the true picture in these cases, for undoubtedly these procedures were carried out and through some administrative error did not get upon the charts. Needless to say, a situation of this kind leads to a great deal of confusion when one is looking through the records in an effort to determine the different types of pelvis, for even in those cases in which they were classified, there were no X-ray reports or pelvic measurements to substantiate the diagnosis.

The most glaring example of failure to use these two important procedures is demonstrated in the following case. A nineteen-year-old primipara had been in hard labor for forty-eight hours without effacement of the cervix or engagement of the fetal head. A section was done without a preoperative X-ray of the pelvis, nor were any pelvic measurements made. When the uterus was opened, it was discovered that the baby was a hydrocephalic, a fact which had apparently been overlooked. The baby died soon after delivery. In addition to the hydrocephalus, there were other congenital defects, to wit, a cleft palate and harelip and deformities of the legs (type not stated). This baby probably would have died anyway, but the forty-eight-hour pounding on the pelvic inlet certainly did it no good, to say nothing of the effect of such a prolonged labor on the mother. Fortunately, the membranes were intact and the mother survived after a very stormy postoperative course. An X-ray of the pelvis would have

certainly helped a great deal in the management of this case.

It is felt that a discussion of placenta praevia as an indication for cesarean section is not necessary, for certainly sudden severe hemorrhage without pain can best be treated by cesarean section, after the diagnosis of the cause of hemorrhage has been established by vaginal or rectal examination. Dieckmann<sup>1</sup> states that section is the procedure of choice in placenta praevia, since the maternal mortality rate is six per cent in vaginal delivery of these cases, as compared with four per cent when delivered by cesarean section. He advises that section be done as soon as the condition is diagnosed in cases past the thirtieth week of pregnancy, for the sake of the baby as well as the mother.

There was one very interesting case of placenta praevia in this series. A multipara who had a previous section for "dead" twins had been in rather hard labor for two hours without any sign of severe bleeding. She was given a cleansing enema shortly after admission to the hospital, and when the enema was expelled a large blood clot was passed from the vagina. A sterile vaginal examination showed the vagina to be filled with blood and a placenta praevia lateralis could be palpated through the cervix. This sudden bleeding caused the patient to go into rather severe shock. She was given antishock treatment and brought into condition for surgery within an hour and a half. The mother and child survived the operation. This was an extraordinary case, for in placenta praevia the bleeding usually occurs without pain and certainly before two hours of hard labor have elapsed.

The question of whether or not a section is indicated in cases of eclampsia always brings up argument among obstetricians. In this series there were seven sections done on eclamptic patients. In all of these patients there had been a minimum of two convulsions, and in one patient a convulsion occurred on the carriage outside of the operating room. The patient survived the operation, however. DeLee<sup>5</sup> and Beck<sup>6</sup> state in their textbooks that eclampsia *per se* is not an indication for section. They do

state that in cases of cephalopelvic disproportion, elderly primiparas and cases where other factors (than the eclampsia) enter into the picture, section is indicated. Both also say that patients who have had convulsions are poor surgical risks. Dieckmann<sup>1</sup> states that any case of severe eclampsia which has been treated medically for eight to ten hours with no improvement and in which there is no effacement of the cervix should be treated by cesarean section. Waters<sup>3</sup> states that eclampsia *per se* is not an indication for section. It seems to be the consensus of opinion of most authorities that, in cases with increasing blood pressure, albumenuria and edema which do not respond to medical treatment are best treated by cesarean section IF the fetus is viable.

Another source of a great deal of argument is the question of whether or not to do a second section. In this series there were seventeen repeat sections, or 15.8 per cent, all agreed upon by consultants. Dieckmann<sup>1</sup> states that a second section should always be done, since we have no way of knowing which scars will hold and which will rupture; and in view of the fact that the maternal mortality rate is 40 per cent in cases of ruptured uterus as compared with 0.4 per cent in elective sections. He advises section within seven to fourteen days of term. Waters<sup>3</sup> does not feel that the section should necessarily be repeated where the original operation was of the laparotrachelotomy type (provided the indications for the first section are not present again), but he believes that a second section is indicated when the classical type of operation was previously used.

#### TYPE OF OPERATION

In this series of cases, three types of operation were performed—classical, poro, and laparotrachelotomy. The number of each type was as follows:

Classical . . . . .	102	(95.3%)
Laparotrachelotomy . . . . .	3	(2.8%)
Poro . . . . .	2	(1.86%)

The poro sections were done in the case of ruptured uterus and in one case of placenta praevia in which hemorrhage could not be controlled.



Sterilization was done in thirty-four cases. Most of these were cases in which there had been previous sections or there was some chronic debilitating disease such as pulmonary tuberculosis or heart disease, and in some cases of eclampsia and toxemia where there was a history difficulty of the same nature with a previous pregnancy. In two cases sterilization was the primary reason for doing the section. Both of these cases had had previous sections, the indications for which were not stated.

The morbidity rate in this series was 42.2%. An elevation of temperature to 101 F, distention, and abdominal discomfort were selected as the criteria for morbidity. It was felt that this was fair to all concerned, since we do get some elevation of temperature when lactation occurs. The appearance of the sulfonamide drugs and penicillin did not seem to effect the morbidity rate in any way, except that the period of morbidity was shortened.

No direct connection could be established between the morbidity rate and vaginal examinations prior to section. Numbers of cases received vaginal examinations and ran a perfectly normal course postoperatively, but on the other hand some cases with no vaginal examinations ran a morbid postoperative course. There was one case of cephalopelvic disproportion in which nine vaginal examinations were done over a period of twenty-four hours, there was slight dilatation of the cervix, and the membranes were intact. This patient ran a very stormy postoperative course and finally recovered with the institution of sulfathiazole therapy.

A review of the literature revealed that the laparotrachelotomy type of section is the operation of choice at nearly all teaching institutions at the present time. This type of operation requires more technical skill, but on the other hand there is a lower mortality and morbidity rate with it (figures will be presented below under maternal mortality rate).

#### ANESTHESIA

The types of anesthesia used in this series were as follows:

Ether	34 cases	(31.81%)
Nitrous Oxide-		
Ether	30 cases	(28%)
Pentothal Sodium	28 cases	(26.2%)
Nitrous Oxide	8 cases	(7.4%)
Spinal	1 case	(0.93%)
Local Infiltration	1 case	(0.93%)
Local and Ether	1 case	(0.93%)

As can be seen from these figures, ether was the anesthetic of choice, with nitrous oxide-ether a close second. Pentothal came into use in 1940 and has been used in twenty-eight cases. There were five maternal deaths in this series, but none of them could be attributed to the anesthetic used. Fetal deaths were equal between ether, nitrous oxide-ether, and pentothal, with five in each group. None of these deaths could be directly attributed to the anesthetics, however. There is some question in the writer's mind as to whether or not pentothal has any untoward effect on the baby. Certainly this question should be investigated (this will be discussed below). Local infiltration anesthesia seems to be the anesthetic of choice at most teaching institutions.

#### MORTALITY RATES

##### A. Maternal Mortality Rate

There were five maternal deaths in this series for a mortality rate of 4.67 per cent. From a study of these deaths, it was felt that all deaths would have to be charged to the surgical procedure. A review of the deaths is presented in Table I.

TABLE I

<i>Cause of Death When Occurred</i>	<i>Indication for Section</i>
Broncho-pneumonia	Third P. O. Day Eclampsia
Unknown	First P. O. day Eclampsia (three convulsions)
Hemorrhage	Five hrs. P. O. Placenta Praevia
Hemorrhage	Three hrs. P. O. Placenta Praevia
Peritonitis	Eighth P. O. Day Contracted Pelvis

Eclampsia and placenta praevia were the leading causes of death with two each. One death occurred in the contracted pelvis group. In no case could the death be attributed to cause of the section, except with the possibility of the one occurring in the eclamptic group, in which no definite cause of death could be established. It is possible



that the two deaths resulting from hemorrhage could have been prevented, and also the one that was caused by peritonitis.

It is interesting to note that the two deaths in placenta praevia were the result of hemorrhage. The hemorrhage probably occurred as a result of failure of the lower uterine segment to contract. This brings up a point of technique. It is probably a good idea to check for the presence of vaginal bleeding before closing the abdomen. This was done in one case of placenta praevia and the patient's life was saved by performing a hysterectomy. Perhaps the two deaths might have been prevented by using this simple procedure. DeLee<sup>5</sup> recommends that the placental site be inspected for evidence of bleeding after the uterus has been contracted by the use of oxytocic drugs, and if hemorrhage is evident, it can be controlled by properly placed sutures. Another procedure recommended by DeLee is the packing of the uterus with a gauze pack prior to closing the uterus. One end of the pack is inserted into the vagina through the cervical canal, using a specially designed spindle. The pack may be removed through the vagina as desired, usually within twenty-four hours. A method of placing the patient on the table for cesarean section is described by Cornell<sup>7</sup>, which greatly facilitates checking for vaginal bleeding without danger of breaking sterile technique.

Eclampsia had the highest mortality rate in this series (seven cases, two deaths), 28.6 per cent; placenta praevia was second with a rate of 8.35 per cent (twenty-four cases, two deaths); cephalopelvic disproportion was third (thirty-three cases, one death) with 3.03 per cent.

Reports from other localities give maternal mortality rates as follows: Free<sup>8</sup> reports a rate of 0.4 per cent in 500 cases at Chicago Lying In Hospital. Dieckmann<sup>4</sup> of the University of Chicago states that the rate should be 0.5 to 1 per cent and that it should be 0.2 per cent in elective sections. Kahn et al.<sup>1</sup> report a rate of 5.07 per cent in 1,088 cases at the University of Maryland. Barney et al.<sup>9</sup> report 1.7 per cent in 1,317 sections at the Cleveland Ma-

ternity Hospital. Johnson<sup>10</sup> of Baylor reports a rate of 2.2 per cent in 362 cases seen in his private practice over a period of twenty-two years. Waters<sup>3</sup> reports a rate of 1.16 per cent at Margaret Hague Hospital in Jersey City, New Jersey.

Barney et al.<sup>9</sup> report a mortality rate of 2.6 per cent in classical sections as compared with a rate of 0.9 per cent in laparotrachelotomy. Greenhill<sup>11</sup> reported a mortality rate of 4.76 per cent in the classical type of section as compared with 1.26 per cent in laparotrachelotomy in the hands of the same surgeons. From these figures it is apparent that laparotrachelotomy is the better of the two procedures. All deaths in this series were in the classical sections.

#### B. *Fetal Mortality Rate*

In this series of 107 cesarean sections there were 108 births, there being one set of twins. There were fifteen fetal deaths, giving a gross mortality rate of 13.8 per cent. The mortality rate can be corrected to 6.48 per cent by discounting eight deaths. The eight deaths discounted were stillborns, prematures, and one case of hydrocephalus with other congenital defects. Any premature of seven and one-half months was counted as viable; any below that period were considered nonviable. There were four prematures of seven months' gestation, one stillborn at seven and one-half months, one stillborn following rupture of the uterus, and one nonviable at five months. There was some doubt as to whether or not to include the hydrocephalic in this group, for the mother was in labor forty-eight hours, and this could have helped to cause the death. However, it was felt that, since it had so many congenital defects, it would not have survived.

It was noted that in all of the deaths due to prematurity at seven months, pentothal was the anesthetic used. Here again the question of the effect of pentothal on the fetus was raised. Could these deaths have been prevented by the use of some other anesthetic agent? We felt that they could have, for it seems that at least one of these babies should have survived. It was felt that pentothal was not a safe anesthetic for use in cesarean section and should not

be used until more information is available. However, recent contributions to the literature do not support this belief. Thoms and Godfried<sup>12</sup> report the use of pentothal in 633 Cesarean sections, with no fetal deaths attributed to the anesthetic agent. Hellman et al.<sup>13</sup> report the use of pentothal as anesthetic for 1,415 deliveries with no ill effect on the fetus. Hellman advises that it should not be used over twenty minutes prior to delivery, and preferably not over ten minutes, as the amount of drug reaching the fetus in that time is fairly small and does not cause any ill effect. From this information it would seem that pentothal is a safe obstetrical anesthetic when properly used, and emphasis should be placed on the *properly used*.

One of the chief reasons for making this study was to determine the effect of preoperative narcotics on the fetus. All cases were reviewed as to whether or not they received a preoperative narcotic, whether or not resuscitation (e.g., the use of stimulants, oxygen, etc.) of the baby was necessary at delivery or later on in the nursery, and the number of deaths in each group. The narcotics used as preoperative sedation in this series were morphine, dilaudid, pantopon, and codiene. The results of this study are shown in tabular form (Tables II and III).

TABLE II

THOSE RECEIVING PREOPERATIVE NARCOTIC

No. Cases	Resuscitation		Deaths
	Normal	Required	
40	16 (40%)	22* (55%)	8 (20%)

\*Two died later.

TABLE III

THOSE RECEIVING NO PREOPERATIVE NARCOTIC

No. Cases	Resuscitation		Deaths
	Normal	Required	
67	56 (83.5%)	7† (10.4%)	7 (10.4%)

†Two died later.

In reviewing the deaths, it was found that only two could be removed from the narcotic group in the cases previously removed from the fetal death rate. This left six deaths for a corrected mortality rate of 15 per cent in the narcotic group. Of the seven deaths in the non-narcotic group, six could be discounted in the number previous-

ly removed from the death rate. This left only one death in the non-narcotic group for a corrected mortality rate of 1.49 per cent. This death was attributed to atelectasis.

From the above figures, it is felt that all will agree that narcotics are definitely contraindicated as a preoperative medication, if the surgeon wishes to give the baby a better chance of survival. These figures give the baby a fifteen to two chance of survival where no narcotic is used. The degree of newborn morbidity is also reduced by refraining from the use of preoperative narcotics. The morbidity rate was 55 per cent in the narcotic group and 10.4 per cent in the non-narcotic group. We cannot definitely state that the deaths in this group were caused by the use of narcotics; however, there is strong evidence in that direction, since nearly all of the babies were extremely depressed and slow to breathe and cry and never responded well to attempts at resuscitation. We feel, however, that we can definitely say that those babies who required resuscitation were under the influence of the narcotics, and the figures in the tables will bear us out on this point.

Morphine was the greatest offender. One case was personally observed by the writer. The mother received one-eighth grain of morphine sulphate one hour prior to the operation. When the baby was delivered, it did not breathe or cry. Lobeline and carbondioxide-oxygen inhalations were used for resuscitation, with the use of artificial respiration. After ten minute respiration of a sort was established, the baby never did give a healthy cry. The baby was taken to the nursery where it became cyanotic. More lobeline and carbondioxide-oxygen were necessary to overcome the cyanosis. For twenty-four hours it had a peculiar type of respiration, best described as "grunting." This baby required constant observation and the frequent use of oxygen and stimulants. The baby survived, thanks to diligent work on the part of the nurses in the nursery. The other charts revealed this same type of thing where a preoperative narcotic was used. Apparently the duration of the narcosis produced in these babies is

in the neighborhood of twenty-four hours.

Gross fetal mortality rates reported in cesarean sections from other localities are as follows: Chicago Lying In Hospital<sup>8</sup>, 9.2 per cent; University of Maryland<sup>1</sup>, 16.14 per cent; Waco, Texas,<sup>10</sup> 4.4 per cent; and Oakland, California,<sup>2</sup> 4.8 per cent.

The gross mortality rate of 13.8 per cent in this series does not compare favorably with the above figures. The corrected rate of 8.55 per cent does not look too bad, although it is still high as compared with other areas. If the deaths that have been attributed to narcotics could be removed, there would have been only two fetal deaths for a mortality rate of 1.85 per cent, which is certainly a goal to strive for.

#### CONCLUSIONS

1. Care should be exercised to see that X-ray reports and pelvic measurements are recorded on the charts in cases of cephalopelvic disproportion.

2. The placental site should be inspected prior to closure of the uterus in cesarean sections, so that hemostasis can be established. This simple procedure would have prevented two deaths in this series of cases.

3. Narcotics are contraindicated as pre-operative medication in cesarean section. According to our figures, the baby has a fifteen to two chance of survival when no narcotic is used.

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MAKE YOUR RESERVATION NOW

TENNESSEE STATE MEDICAL ASSOCIATION

112TH ANNUAL MEETING

APRIL 8, 9, 10, 1947

PEABODY HOTEL, MEMPHIS



## HEALTH LEGISLATION ENACTED BY THE SEVENTY-FIFTH GENERAL ASSEMBLY

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The present legislature has passed this far seven laws of interest and concern to the public health and the medical profession. Four of the laws relate to hospitalization facilities and services. One such law relates to the provision of funds for the operation of state tuberculosis hospitals whereby the Commissioner of Public Health and the Public Health Council, with the approval of the governor, are empowered to establish criteria governing the admission of patients to the various classes of state-owned tuberculosis hospitals and determining the bed allotment in such manner as will provide equitable distribution of hospital services to each county.

Another law establishes a Hospital Board for the regulation and licensing of hospitals. Periodic inspections are provided for by a representative of the State Department of Public Health under rules and regulations specified in the act. The Hospital Board is composed of eight members appointed by the governor within thirty days after the law becomes effective. The personnel of the Board consists of a doctor of medicine, a dentist, a graduate pharmacist, a registered nurse, and two persons engaged in hospital administration. The two remaining ex-officio members are the State Commissioner of Health and the Chairman of the Public Health Council.

A law has also been enacted to provide for an inventory of existing hospitals and a survey of the need for additional hospital facilities. The fourth hospital law was the authorization for an additional issuance of \$2,000,000 of bonds for erection and equipment of State Tuberculosis Hospital.

One exceeding meritorious piece of legislation was the repeal *in toto* of the 1943 and 1945 Naturopathic acts, whereby the practice of this cult in Tennessee is expressly prohibited. There can be no doubt but that the 1947 Legislature undid what the two preceding legislatures should never have done. In the repeal of the Naturopathic Act, Tennessee emerges from the

muck and mire of an untenable status in that it will no longer be the "happy hunting ground" of this species of quackery.

Inasmuch as the passage of an act for the licensure of all authorized forms of the healing arts in Tennessee is of paramount concern to the doctors of medicine, specific phases of the new law are set forth in rather definite detail below.

### TENNESSEE LICENSING BOARD FOR THE HEALING ARTS

On February 6, 1947, the General Assembly of the State of Tennessee passed House Bill No. 234 which provides for a State Licensing Board for the Healing Arts, and on February 7, 1947, Governor Jim Nance McCord signed the bill which makes it an official act of the Seventy-Fifth General Assembly. Two amendments were made to the bill. The Board of Optometry requested that optometry be included under provisions of the bill, and it was so amended. The other amendment was included at the request of the osteopaths. The official designation of "Osteopath" was changed to "Osteopathic Physician."

The provisions of the law are as follows:

1. A State Licensing Board for the Healing Arts is created composed of the Secretary of State, the State Treasurer, and the Commissioner of Public Health, who shall be the Executive Officer of the Board.

2. The Board is given the exclusive authority to issue all licenses and duplicate licenses authorizing the practice of the healing arts. The practice of the healing art is defined as offering or undertaking to diagnose, treat, operate on, or prescribe for any human pain, injury, disease, deformity, or physical or mental condition. Nurses, midwives, chiropodists, barbers, cosmeticians, Christian Scientists, and pharmacists are excluded unless they undertake to practice the healing art.

3. The State Board of Examiners in the Basic Sciences, the State Board of Medical Examiners, the State Board of Dental Ex-

aminers, the State Board of Osteopathic Examination and Registration, the State Board of Chiropractic Examiners, and the Board of Optometrist Examiners are required to furnish the Board a duplicate copy of each and every certificate issued by each of the Boards. This includes information concerning persons previously licensed as well as information about applicants examined after the effective date of the law.

4. Every person who passes an examination of one of the various boards must apply to the State Licensing Board for the Healing Arts for a license to practice. The Board is given authority to investigate the credentials of each applicant and may refuse a license to an applicant if all requirements of the laws of the State have not been met.

Application to the Board must be made on a special form accompanied by a fee of \$10.00. The official license of the State Licensing Board for the Healing Arts must be signed by the Executive Officer of the Board and all members of the Board of the particular profession in which the applicant is licensed. A different form of license certificate will be prepared for each profession with the name of profession prominently displayed thereon.

5. Every person licensed to practice in the State must register with the Board and pay a fee of \$2.50 sometime between July 1, 1947, and September 30, 1947. If a person fails to register by October 31, 1947, his license will be automatically revoked.

Each person must register and pay a fee of \$5.00 before December 31, 1947, and before each succeeding December 31. Failure to register by January 31, 1948, and each succeeding January 31 will result in automatic revocation of his license.

A person newly licensed must register within thirty days of the date of license. Failure to register will result in automatic revocation of the license.

Special registration forms will be made available on request. A lowering of the amount of the registration fee may be possible by the time the Legislature meets in 1949.

6. A practitioner must display conspicuously the Registration Certificate issued to him in his office at all times. If a practitioner changes his address, he must notify the Board within fifteen days and will receive a new certificate without additional fee.

7. Persons in the Army, Navy, and the U. S. Public Health Service are exempted from registration. A person who has retired from practice will not be required to register provided he makes affidavit to this effect at the proper time. This would apply to persons who have a license to practice in Tennessee but who are now practicing in another state or who might in the future move to another state to practice.

8. Every person registered to practice must place and keep placed in a conspicuous place at the entrance of his office a sign in intelligible lettering not less than one inch in height containing his name immediately followed by the recognized abbreviation indicating the professional degree. Immediately below his name in the same size lettering must be placed "Medicine," "Surgery," or "Medicine and Surgery" for Doctors of Medicine, "Dentist" for Doctors of Dentistry, "Osteopathic Physician" for Osteopaths, "Chiropractor" for Chiropractors, and "Optometrist" for Optometrists. The same wording must be used in all signs, announcements, prescription pads, and stationery.

9. The Act repeals the requirement of registration of applicants and issuing of licenses by the various Boards. Under this law, it is no longer necessary for a practitioner to record or register his license with the County Court Clerk of the county in which he proposes to practice his profession. The various Boards retain all other powers, including the collection of all fees and enforcement of the law. The State Licensing Board for the Healing Arts is given the power to enforce the laws of the various Boards as well as to enforce this Act.

10. The State Licensing Board for the Healing Arts may suspend or revoke a license for twenty-eight unethical practices, including immoral conduct, all types of

advertising, invasion of another field, violations of narcotic and barbiturate laws, use of untruthful claims, criminal abortion, etc.

The Board is given the power to hold hearings in regard to suspension or revocation of licenses, to administer oaths, issue subpoenas, and compel witnesses to attend. The person who has his license suspended or revoked may appeal the action to the courts.

11. The Board is given the power to petition any circuit or chancery court to enjoin a person from practicing without a license.

12. Any person who violates the Act or who practices without a license, on conviction, is subject to a fine of not less than \$100.00 and not more than \$400.00 or im-

prisonment in a county jail for not more than eleven months and twenty-nine days or both.

Any person filing a false diploma or a forged affidavit of identification shall be guilty of a felony and subject to punishment prescribed by law for the crime of forgery.

13. All funds collected by the Board shall be earmarked for enforcement of the Act, and the Board is empowered to employ investigators, attorneys, and to make any other expenditure of funds for enforcement of the Act.

14. The law becomes effective July 1, 1947.

As soon as printed copies of the Act are available, copies will be sent to all physicians in Tennessee.

DON'T MISS

THE 112TH ANNUAL MEETING

TENNESSEE STATE MEDICAL ASSOCIATION

APRIL 8, 9, 10, 1947

HOTEL PEABODY ● MEMPHIS



## THE MANAGEMENT OF TRAUMATIC HEMOTHORAX\*

L. SPIRES WHITAKER, M.D., Chattanooga

The treatment of hemothorax is hinged around the simple fact that blood clots in the pleural cavity and fibrin is deposited on the visceral and parietal pleura. If the blood is evacuated rapidly and the lung re-expands quickly, then recovery is uneventful. If the layer of fibrin on the visceral pleura is allowed to organize before re-expansion takes place, then the lung is permanently bound down unless surgical measures are resorted to.

Because blood is rapidly absorbed from the pleural cavity, many clinicians have felt simple bed rest sufficient in the treatment of hemothorax. Others aspirated, but not energetically, because they thought the fluid present was benign and that clotting failed to take place. This has resulted in many a chest invalid.

In 1829, LeBlanc and Trousseau, experimenting on horses, showed that blood does clot in the pleural cavity. Subsequently, investigators have frequently shown that blood clots very rapidly in the chest cavity, but coagulation is often interfered with by defibrination. When bleeding is rapid, massive, and the thoracic contents are relatively quiet, large clots may form. As a rule, there is only a small amount of clotting, because agitation of the pooling blood by the constant movement of the heart, lungs, diaphragm, and chest wall defibrinates the blood. As you will remember, in the laboratory when blood is whipped by a rod, fibrin collects on the surface of the rod and a fluid remains which is composed of serum, together with red and white cells. This resembles blood in appearance, but is totally incapable of clotting. In the same manner fibrin is deposited dependently in the costophrenic sulcus and on the pleura. This forms a thin mantle of fibrin and clotted blood which is continuous over the visceral and parietal surfaces. According to Samson Burford and Brewer, this layer shows microscopic evidence of fibroblastic and angioblastic proliferation with-

in seven days. The membrane becomes progressively thicker and within four weeks adult fibrous tissue can be seen forming. When fully developed, the peel is entirely inelastic, fibrous membrane, which keeps the lung compressed and immobilized.

In New Guinea we found rapid evacuation of all fluid by repeated aspirations reduced the period of morbidity, dropped the temperature to normal, allowed the concurrent malaria to be controlled, reduced the incidence of empyema, and sent the soldier to duty quicker with less disability.

Studying twenty-four consecutive cases of hemothorax admitted to my service in New Guinea, six cases, or twenty-five per cent, developed empyema. Two cases, or 8.3 per cent, required operation for persistent pleural effusion, and sixteen, or 66.7 per cent, re-expanded uneventfully in less than three weeks. In the sixteen cases which re-expanded, the average number of aspirations was 2.6 per case with a removal of 489 cubic centimeters per aspiration, or a total amount of 1,289 cubic centimeters of fluid per patient.

All sixteen of these cases had potentially infected pleural cavities. All were either penetrating or perforating injuries and patients gave a history of sucking at the time of injury. A high blood level was usually maintained until a week after the lung re-expanded. These patients carried sulfadiazine and took large doses internally soon after injury. Penicillin was not available at this time. The wounds were usually powdered with sulfanilamide and a pressure dressing was applied by the corps man within five to twenty minutes of injury. Due to the character of jungle warfare few received debridement or hospital care until three or more days following injury. On admission to the hospital, many showed gutter wounds of the chest wall with two or more compound comminuted fractures of ribs with freshly sealed pleura clearly visible at its bases. We felt in these cases that the soft tissue was too friable and the infection too gross

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\*Read before the Tennessee State Medical Association, Knoxville, April 9, 10, 11, 1946.

to permit more than a superficial debridement. We applied wet azochloramide dressings to the wound and evacuated the hemothorax as quickly as possible. It was our experience that empyema required ten to fourteen days to develop in the majority of cases. If the lung could be completely re-expanded in six days, then empyema could be aborted.

Wet dressings were used only because the wounds were three or more days old and were received in a grossly infected state. When the chest injury is admitted to the hospital early, we recommend complete debridement under thorough aseptic conditions. When the pleural cavity is found open, then all clots should be removed and thorough irrigation with normal saline carried out. The wound should be closed tightly and an intercostal catheter inserted in a lower interspace posteriorly and connected to underwater seal or suction. This tube often can be removed the first day postoperative.

Under the most adverse circumstances, about sixty-six per cent of massive hemothorax should re-expand in less than three weeks when treated energetically with repeated aspirations. Those which fail to re-expand early develop either empyema or chronic hemothorax and aspiration is no longer of value.

One of the most brilliant advances in surgery during this war is the treatment of chronic hemothorax by decortication. Decortication is an old term dating back to 1893-94, when Fowler, Dlorme, and Beck attempted to free the bound-down lung by cutting away what they called "thickened pleura." The operation had a high mortality with a few good results. In 1943, a group of chest surgeons in the Mediterranean area brought forth and proved an entirely new concept. They showed that the so-called "thickened pleura" was in reality a layer of fibrin thrown out of the hemothorax pool and settling on the visceral and parietal pleurae. They showed there was a very definite line of cleavage between this layer and the pleura. When the peel is removed by decortication, a smooth glistening pleura is present which readily re-expands.

The most opportune time to decorticate a lung is from three to four weeks following injury. Prior to this the membrane is too friable and cannot be removed as a continuous sheet. Organization commences after four weeks, and as time goes on capillaries increase between the membrane and the visceral pleura, causing a large loss of blood when they are separated. As the membrane or peel becomes more fibrous, the adhesions to the visceral pleura are more difficult to separate without tearing into lung tissue.

Decortication is indicated when aspiration fails to re-expand the lung in three to four weeks, and there is a fifty per cent collapse of the lung. Infection of the hemothorax is no contraindication and decortication of postpneumonic empyema is sometimes a very useful procedure.

The success of decortication in this war is due chiefly to the advances made in shock therapy and anesthesia. Routinely, we ordered 2,000 cubic centimeters of blood before operation, and at least 1,500 cubic centimeters was given during the operation. The anesthetist regulated its rate of flow in such a manner as to keep the blood pressure at a constant level. A large quantity of blood is lost during the operation and the transfusion needle must always be kept patent. Endotracheal anesthesia is necessary and from time to time during the operation the lung is gently inflated by exerting positive pressure. This must be done with care, otherwise a severe laceration of the lung may occur at the edge between free visceral pleura and that portion of the visceral pleura which is still bound down by the fibrous peel. The older the hemothorax or empyema, the more difficult it is for the surgeon to keep his line of cleavage because the collapsed lung is wrinkled beneath the binding membrane in the same manner as a crumpled piece of paper. Not only does the peel cover the outer surface, but there are small adhesions within the wrinkles and crevices. By gently cleaning out these indentations under positive pressure and allowing the visceral pleura to spread out evenly, one avoids tearing lung tissue. Slow, careful,



blunt dissection of the peel with the finger is preferable, but at times sharp dissection is necessary. The best results are obtained when the entire visceral pleura is decorticated, including the mediastinal surface. Mobilizing the diaphragm and re-developing the costophrenic sulcus is difficult, but should always be done to allow more rapid re-expansion and to prevent postoperative pain from deep breathing and heavy lifting. The latter is the most common complaint following hemothorax, and persists for a year or more in severe cases. The parietal pleura should be removed if it strips easily; however, bleeding during this stripping does not warrant its removal in certain cases. Allowing it to remain does not retard expansion of the lung. When it is removed, the chest wall remains depressed with narrowed interspaces until the atrophied intercostal muscles are built up by active breathing exercises. The return to normal of the intercostal muscles is chiefly dependent upon a healthy expanded lung, and it is questionable as to whether decortication of the parietal pleura hastens this. At the end of the operation, two 32F rectal tubes are inserted, one in the apex anteriorly, the other at the base of the chest in the posterior axillary line. These tubes are connected to suction with a negative pressure around minus sixteen centimeters of water. The anesthetist exerts low positive pressure while the wound is closed in layers. The patient is then bronchoscoped before returning to the ward.

In the postoperative care, every effort is made to keep the tracheobronchial tree free of secretions. The upper intercostal tube is removed the first day postoperative. The posterior tube is removed as soon as the lung is re-expanded.

#### CASE REPORTS

T/Sgt. C. L. F. Age twenty-six.—This twenty-six-year-old soldier with four years' service was admitted to Brooke General Hospital complaining of emaciation and a draining wound of his left chest. He was wounded about 1200 hours by shrapnel from a high explosive shell on 8 February 1945, Luzon, Philippine Islands. He was

struck about two inches below his left nipple. He was given first aid and taken to the One Hundred Fifteenth Clearing Company, where his wound was debrided and dressed. A thoracentesis was done. He was given general surgical care and chemotherapy was instituted. He was evacuated through channels to One Hundred Thirty-Second General Hospital, where a thoracotomy was performed on 2 March 1945. About 2,500 cubic centimeters of black, clotted blood was removed from the left side of his chest. On 11 March 1945 a second thoracotomy was performed on the left and 475 cubic centimeters of seropurulent material was evacuated, and a tube was placed low in his left side at this time. He arrived through channels at Brooke General Hospital on 3 April 1945.

On admission to this hospital physical examination revealed a thin emaciated white male with marked pigmentation of atabrin. The left chest showed marked decrease in expansion and aeration. There was a draining sinus at the level of the eighth rib, and there was also a draining wound below the level of the eleventh rib on this side with a catheter in place. There was considerable tenderness in this area.

Operation: 12 May 1945. Decortication, left lung, excision of bronchopleural fistula.

Diagnosis: hemothorax, organized, left, infected severe, secondary to wound, penetrating, severe, mortar fragment, chest wound, anterior, entrance, just below and lateral to left nipple penetrating left pleural cavity, WIA about 1200 hours, 8 February 1945, when struck by enemy mortar shell fragment, Luzon, Philippine Islands.

Captain J. E. P. Age thirty-six.—This thirty-six-year-old officer with twelve years of service was admitted to the Brooke General Hospital with a chief complaint of a slight dyspnea on exertion, some fatigability, secondary to wound, perforating severe, left chest, point of entry second intercostal space at the nipple line, point of exit seventh rib midscapular line, accidentally incurred when he was struck by a stray bullet on a combat problem at about 0930 hours, 19 October 1944, APO 628. At that time he sustained a fracture of the



seventh rib midaxillary line, developing a hemothorax, severe, following this injury. The patient was admitted to the One Hundred Seventh-Eighth Station Hospital in shock. He was treated by transfusions of whole blood, plasma, and ligation of intercostal vessels. His wound was debrided and closed.

On admission to Brooke General Hospital, 23 February 1945, physical examination revealed a thin undernourished white male. There was marked decrease in expansion of his left chest. There was a scar on the anterior left chest at the point of entry of the bullet. The breath sounds over the left lung were diminished throughout, especially at the base; otherwise his right lung seemed negative.

Operation: 3 March 1945 decortication, left lung.

Diagnosis: hemothorax, severe, left, secondary to wound, perforating severe, gunshot, thirty caliber, left chest, accidentally incurred when struck by a stray bullet on a combat problem at approximately 0930 hours, 19 October 1944, India.

#### DECORTICATION

Pvt. L. M. S. Age twenty-three.—This twenty-three-year-old soldier with one and six-twelfth years of service was admitted to Brooke General Hospital with a draining sinus of his right chest. About 1500 hours on 23 November 1944, this soldier was WIA by a Jap sniper bullet on Leyte, Philippine Islands. The point of entry was the right margin of the sternum at about the level of the second interspace; point of exit, posteriorly near the twelfth vertebra on the right. The patient was given first aid and taken to the First Field Hospital here on 24 November 1944; his wounds were debrided. He was given general surgical care and chemotherapy. Patient states that he had four thoracenteses during his stay at the First Field Hospital. Blood was aspirated from his chest at each of these times. Later he was transferred to the One Hundred Thirty-Second General Hospital, where on 28 December 1944 a tube was placed in an interspace for drainage of empyema. This tube remained in place for four weeks and was then removed, fol-

lowing which he drained for a short time.

On admission to this hospital on 26 March 1945, his physical examination was essentially negative except for the right chest. There was a draining wound. There was marked decrease in expansion and aeration of the right lung.

Operation: 23 April 1945, decortication, right lung.

Diagnosis: hemothorax, severe, right infected secondary to gunshot wound incurred when patient was shot by Jap sniper 23 November 1944, Leyte, Philippine Islands.

Pfc. E. C. B.—This nineteen-year-old soldier who appeared thin and somewhat emaciated was admitted to Brooke General Hospital on 9 May 1945 with the complaint of a draining empyema of the left chest. The onset of his thoracic condition dated back to 3 December 1944, when he was captured by the Germans. From that date until 5 February 1945, he was a patient in a German prison hospital and was treated for left lower lobar pneumonia. At that time he took a forced five-day march to a new prison camp due to the transfer of prisoners and at the end of the march was again sick, and was hospitalized at this time in a British prisoners hospital in Germany. Here his left chest was aspirated three times, he stated, and a considerable amount of fluid was removed. On 31 March 1945 he was liberated and was evacuated through channels, arriving at Brooke General Hospital on 9 May 1945.

On admission this patient appeared chronically ill, but in general, considering what he had been through, he looked quite well. Physical examination revealed loss of weight, approximately fifty pounds. The left chest had a large drainage tube in place; however, there was very little drainage being discharged.

Operation: 21 June 1945, decortication, left lung with curettage of old sinus tract.

Diagnosis: empyema, chronic, severe, left pleural cavity, secondary to pneumonia, lobar, left lower lobe, incurred in Germany 10 February 1945 while POW.

#### DISCUSSION

DR. DAVID WATERMAN (Knoxville): In the absence of Doctor Eve and Doctor Hughes I was

asked to make a few comments on Doctor Whitaker's paper.

One of the most important contributions that the recent war has made has been the crystallization and standardization of the treatment of chest injuries, particularly the problem of hemothorax, which Doctor Whitaker has mentioned. He has given an excellent résumé of the present accepted treatment.

Only twelve years ago, when I was in medical school, I was taught (as were most medical students) that we should wait fourteen days before we aspirated blood from the pleural cavity. In hospital work later we shortened this period to about forty-eight hours, and then made it a practice to replace the blood to a large extent with air in order to keep a pneumothorax and prevent bleeding from the lacerated lung; at least, that was the theory back of it.

In private practice in chest surgery, in treating some of the Saturday night Vine Street switch knife and ice-pick casualties that come in to General Hospital, we have reduced this period to twenty-four hours and replace the blood with much less air than we used to. Now we know that even this twenty-four-hour period is really unnecessary and undesirable. It has been very well proven by many of the investigators during the war that the lung will not bleed if the blood is promptly removed, and that the air replacement serves only to prolong and complicate the recovery of the patient.

It is important, for example, to keep the apex of the lung expanded if we are to achieve the best result. The immediate and continued approximation of the two layers of the pleura is the goal to be desired. We have seen a great many of these patients who have not achieved this happy result. The lung is bound down with a rigid envelope and is incapable of full expansion. The chest wall is contracted in nature's effort to obliterate the resulting pleural space, and there is a marked deformity and contraction of the chest wall as a result. Thus the patient has a deformed chest

over a markedly restricted lung. The respiratory efficiency is greatly reduced, as functional studies have amply demonstrated, when there is a thickened layer of pleura over the lung and the chest wall.

Often bronchiectasis develops in the contracted lung, and that further complicates the picture. The only treatment effective at this late stage is an extensive thoracoplasty, usually requiring multiple stages of operation, in order to obliterate completely this residual pleural space. In those individuals where serious lung damage has already occurred, such as the bronchiectasis group, lobectomy or pneumonectomy are the only feasible procedures. This is a difficult procedure at this stage because of the damage that has already occurred to the chest wall and the pleura, and there is of course a higher operative risk than in the average lobectomy and pneumonectomy that we do.

I would like to echo what Doctor Whitaker has said in urging, first, very prompt aspiration of the hemothoraces; second, continued aspiration, keeping all the blood out of the pleural cavity; and third, prompt decortication if the indication arises for it.

Thank you. (Applause.)

DR. WHITAKER (closing): I would like to emphasize again that these pleural cavities should be evacuated as rapidly and energetically as possible with multiple aspirations. When there is a massive hemothorax, two or three aspirations in the course of twenty-four hours may be necessary. This is due partly to the pleural effusion secondary to the acute pleuritis, which sometimes causes a rapid reaccumulation of fluid after the pleural cavity has been apparently emptied.

Working in a chest center just prior to this war, we were still doing thoracoplasties on empyema cases from 1918. Thanks to the advances made in chest surgery in recent years, the veteran of this war has a far more favorable outlook. The modern use of decortication will and has saved hundreds of veterans from the necessity of thoracoplasty.

WHAT?

112TH ANNUAL MEETING

TENNESSEE STATE MEDICAL ASSOCIATION

WHEN?

APRIL 8, 9, 10, 1947

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## PAST PROGRESS AND FUTURE PROGRAM OF TUBERCULOSIS CONTROL\*

J. B. NAIVE, M.D., Knoxville

The fight against tuberculosis has come a long way within the past four or five decades. It has progressed from a public point of view which tended to stamp every case of tuberculosis as hopeless to one which views relatively few cases as hopeless, and which sees relatively certain cure and usually permanent cure for almost all early cases and most moderately advanced cases, provided only that they receive the proper treatment.

We have seen the United States tuberculosis death rate drop during this time from 200 per 100,000 to 41 per 100,000; we have seen the Tennessee tuberculosis death rate drop within the past twenty-seven years from 200 per 100,000 to 61 per 100,000, though, sad to say, she still has the second highest resident tuberculosis death rate of any state in the country, having only recently yielded first place to her sister state, Kentucky; and we have seen the Knoxville tuberculosis death rate drop from almost 200 per 100,000, which it was only some twenty years ago, to 46 per 100,000 in 1944, and to an estimated 32 per 100,000 in 1945. I should add that the estimate was based upon a population of only 115,000, whereas Knoxville must actually have a population of 150,000 or more.

Such marvelous progress in combatting tuberculosis has meant much. It has meant the saving of millions of lives; it has meant the safeguarding from the disease of multiplied millions of people; and it has meant the saving of billions of dollars. It has made our country an incomparably safer and happier place in which to live.

This has been accomplished by unusual effort on the part of many people and of many organizations. There has been generous cooperation in expending both money and personal effort, and there has been unusually capable leadership. We have every right to derive great satisfaction from the accomplishment because our pro-

fession provided most of the leadership. Certainly it plotted the course and it set the pace.

The general public is well aware of the part which the medical profession has played in the fight against tuberculosis, and it is generous with its appreciation; moreover, it looks to the medical profession for continued leadership, and it will be willing to follow loyally in the future just as it has done in the past, but it seeks a highly capable and an aggressive leadership. In fact, it will accept nothing short of that type of leadership. Of that, I am very sure. The challenge to us is definite and compelling. We *must* continue to provide that leadership, and, in order to do so, we must learn everything possible concerning the principles of tuberculosis control, particularly those very modern ones, which are proving to be so effective.

The basic principles of tuberculosis control—early diagnosis, prompt, proper, and adequate treatment, and prevention through the segregation of infectious cases—are unchanged as well as unchallenged. It is in the refinements of these principles that we must increase our knowledge and revise our methods; for these refinements will, most likely, establish the pattern for our entire future tuberculosis control program.

First of all, people must be better taught how to avoid contracting tuberculosis. We must show them that, on the one hand, a person with a normally high physical resistance can usually avoid contracting the disease—certainly under anything like conditions of freedom from concentrated exposure—but that, on the other hand, close, continued exposure to an active case of tuberculosis is always dangerous—in fact, very dangerous, particularly when those so exposed are children. I have, personally, seen hundreds of cases which prove beyond the slightest shadow of doubt the extreme danger in such contact.

Then diagnosis must be greatly improved upon; for too many cases of tuberculosis are still being diagnosed in advanced

\*Read before the Knoxville Academy of Medicine, April 30, 1946.



stages, and far too few in early stages. We must always bear in mind that the only proper goal is the greatest possible percentages of all diagnoses in the earliest possible stages, when cure is comparatively easy and usually certain, and before the patient has reached the infectious stage in his disease. Most of these late diagnoses come as a result of blind dependence upon the physical diagnosis as a means of diagnosis, than which no greater mistake could be made. Of 280 minimal cases at the Trudeau Sanatorium, physical signs warranting a positive diagnosis were present in only twenty-seven per cent. In the light of our present facilities, the physical examination is grossly inadequate. It may even be very harmful, not only because of what it fails to do, but also for the sense of false security which it encourages. It has had its day—to be sure, a rather brilliant day; but, as far as the diagnosis of tuberculosis is concerned, it has outlived its usefulness. It has become a frequent source of life-costing blunders, and, as an aid to the diagnosis of tuberculosis, it should be discarded, once and for all time.

I should mention, here, refinements of the sputum test as an aid in diagnosis. Concentrated methods are valuable as a screen along with other tests and will, occasionally, make possible a diagnosis when it simply cannot be made by any or all other means. Such a case recently came through the clinic: positive sputum test; positive on recheck; and a negative X-ray picture. Hence to be perfectly safe, the sputum test should be used in all cases—the concentrated method, of course.

In seeking the earliest possible diagnosis, there is one highly dependable aid, and one only: The X-ray picture of the chest. To be sure, even this is not perfect, but it leaves very little to chance. With well-made pictures, capably interpreted and repeated in the presence of suggestive symptoms, a serious mistake in diagnosis will almost never be made.

By liberal use of this aid, the physician is able to render vital service to his patients, and he should use it whenever there is the slightest justification. He should, by

all means, identify all contact cases in his practice—that is, all who have been closely associated with an active case of tuberculosis, and he should have these contacts X-rayed at least twice a year. The contacts should, moreover, according to my opinion, continue to have such X-ray examinations throughout their lives. The physician should always follow up the slightest manifestation of any of the symptoms which point to the presence of tuberculosis by X-ray pictures of the chest, repeated as long as any such symptoms persist; and he should work steadily toward the incorporation of chest X-ray pictures in the periodic health examinations which are being more and more urged. Indeed, in just a word, he should make it a definite objective to have an X-ray picture made of the chest of each of his adult patients at least once every two years. . . .

Then, in order to justify our position of leadership, there must be a tightening up in the matter of treatment. Just as there are far too many physicians who will tell a coughing or a weight losing patient that “an X-ray picture is not necessary,” there are likewise too many who will tell the patient sick with tuberculosis that “he can be treated at home just as well as in an institution,” and that being at home with his family does not “really involve any danger for the family.” The first error is proved by countless needless graves all over the country, for, in truth, patients simply do not get along as well at home as they do in an institution, and all too many lives have been sacrificed to home treatment. The second error is amply proved by the experience which we have had over and over again: case after case of tuberculosis coming to us from the same family—all but the first one victims of unnecessary exposure. Wherever facilities are available, every case of tuberculosis should be immediately placed in an institution and should be kept there as long as necessary: in order to give the patient every possible chance to get well and in order to give to the other members of the patient's family the protection which they deserve.

In connection with treatment in general, I should say a word about collapse treat-

ment in its various forms. This is based upon the sound principle of affording rest to a diseased organ, and, in properly selected cases, it is very valuable. However, I definitely feel that every patient should be given the benefit of a period of complete bed rest in an institution before any such treatment is begun. I also believe that, once the indications for surgical treatment present themselves, such treatment should be instituted at once and carried out vigorously, but, of course, most carefully.

There was a time when patients tended to shrink from such operations as thoracoplasty. Such is rarely the case now, however. Indeed, the chief trouble now is that there are not enough adequately trained chest surgeons, but no doubt this lack will be remedied in the near future. Let us hope so, because our profession certainly owes this service to those in need of such surgery.

Thus the pattern for the further fight against tuberculosis and for its ultimate elimination takes form as follows:

1. Improved leadership on the part of the medical profession, especially in the recognition of and utilization of recent advances in diagnosis and treatment.

2. A much wider use of the X-ray machine as an aid to early diagnosis. Certain groups, in particular, should be covered and kept permanently covered. Of these groups, I would especially stress the following:

- (1) Food handlers, domestics, barbers, beauty parlor operators, and others in such "service" callings.

- (2) All workers in industrial plants and in merchandising establishments.

- (3) All "contact" cases.

- (4) All teachers and other personnel in schools and colleges.

- (5) All high school and college students.

- (6) All hospital personnel—nurses, both graduate and undergraduate, all interns and residents, and all general employees.

- (7) All patients admitted to all hospitals of whatever type, including both inpatients and outpatients. This procedure is being recommended by the American Hospital Association and is coming into use rather generally over the country. In Tennessee, it is being put into use in the John B. Gaston Hospital, in Vanderbilt Hospital, and it is shortly to be put into use in the Bar-oness Erlanger Hospital in Chattanooga. Its universal adoption is only a matter of time—perhaps not so very much time, at that. I only wish it might be possible for our Knoxville hospitals, especially the Knoxville General Hospital, to adopt it now.

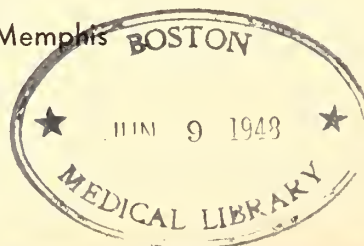
3. Over the country, but especially in Tennessee, there must be better facilities for the treatment of tuberculosis—particularly as regards sanatorium beds, and such facilities along with those now present, must be more advantageously utilized.

4. Finally, some provision should be made for the care of the family of the patient who is under treatment. Otherwise, he will be constantly worried over their welfare, and he will to that extent interfere with his recovery; and some provision should be made to rehabilitate him—that is, train him for work which he can do without causing him to break down again.

Under such leadership as the medical profession will surely wish to provide, and using such principles as I have attempted to set forth, the battle against tuberculosis should go on with ever-increasing effectiveness; and, under such conditions, the next four or five decades should see the disease approaching the vanishing point as one of our serious health problems.

112th Annual Meeting—April 8, 9, 10, 1947

Hotel Peabody, Memphis





# THE JOURNAL

OF THE

TENNESSEE STATE MEDICAL ASSOCIATION

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W. M. HARDY, M.D., Editor and Secretary

FEBRUARY, 1947

## EDITORIAL

### VOLUNTARY PREPAYMENT MEDICAL PLAN

We might recall that a special meeting of the House of Delegates of the Tennessee State Medical Association was held on September 22, 1946, and actions taken at that meeting were:

1. That the House of Delegates goes on record accepting the Committee's report.
2. That the Board of Directors so reported be approved.
3. That the Board of Directors formulate a complete policy or certificate, subject to the approval of the Commissioner of Insurance, with the rates and the complete data stipulated, ready for the press.
4. That the Board of Directors also presents at the same time a similar certificate with complete details—schedules, fee, and everything—approved by the Insurance Commissioner, with bids from private companies on that particular schedule. (Then we will have our own to see what we can do.)
5. That the Board of Directors makes this report within six months.
6. That a copy of each of these certificates presented be in the hands of the constituents of the various societies of the state, so that when you come back here you will have no excuse to offer that you have not read it in black and white.

Complying with these actions, an insur-

ance policy was submitted to the Commissioner of Insurance for his approval. In due time we learned that the department saw no gross errors in the policy as submitted. However, the actual approval of the policy could not be secured until the policy was ready to be offered for sale.

It was then decided to ask every insurance company licensed to operate in Tennessee to write a premium into this basic policy. Prompt replies were received from some companies, saying that they were not prepared to handle that particular kind of business. Other companies submitted more or less similar policies which they were issuing. However, it was impossible to reduce these policies to a comparable basis. The protection given and the premium charged and the doctors fees paid were so diverse that these policies could not be compared with our base line policy.

Some of our Tennessee companies spent much time trying to fit into their organizations the policy outline to cover the points specified by the House of Delegates. A desire on the part of these companies to render a public service to the people of their own state and personal friendship with the doctors of the state were the only reasons which prevented these companies from declining to quote a premium. These companies thought the fee schedule was so high and the benefits were so limited that the purpose to give insurance to low income subscribers would be defeated.

In view of this *impasse*, a meeting of the incorporators was called. To this meeting the Trustees were invited. A representative of the Provident Life and Casualty Insurance Company of Chattanooga was asked to be present to give counsel on commercial insurance questions. Representatives of the Association of Medical Service Plans, Inc., and of the Council on Medical Service of the American Medical Association were invited to attend. The attorney of the Medical Association and one or two others were requested to be present. In all a group of nineteen spent February 2 in an all-day meeting.

The results of the day's discussion were that the incorporators present organized by



the election of Mr. Maclin Davis as president. They then signed the application for a charter creating the Tennessee Prepayment Medical Plan. This application was sent to the two absent incorporators, and, when their signatures are secured, the incorporation will be completed. The incorporators will write a policy covering the points covered by the instructions of the House of Delegates at the September 22 meeting. In writing this policy the incorporators will be guided by the experience of similar prepayment nonprofit medical care plans, so that it will be actuarially sound.

Details, too numerous to mention, will be worked out, and when the House of Delegates meets the final decision will be made by the House of Delegates as to the wisdom of adopting the proposed plan.

## DEATHS

M. H. ALLEN, M.D.

M. H. Allen, M.D., Lafayette; University of Tennessee School of Medicine, Nashville, 1893; died January 9, 1947.

JOHN BELL SHOUN, M.D.

John Bell Shoun, M.D., Elizabethton; Chattanooga Medical College, 1908; aged seventy-two; died January 14, 1947.

## AND WE QUOTE

The press accounts of a radio speech by Senator Robert A. Taft of Ohio failed to mention the senator's remarks on the Wagner-Murray-Dingell Bill. Dr. Jere L. Crook of Jackson heard the broadcast and wrote the senator asking for that part of the manuscript. The following is quoted from the *Jackson Sun* to show the views of Senator Taft:

"So, also, in the health field, we are proposing a program to assist the states and local governments in making their treatment of the indigent and medically indigent more systematic and complete. We should encourage the formation of plans for vol-

untary health insurance to be available to those who wish to take it out.

"On the other hand, we strenuously oppose the Wagner-Murray-Dingell Bill, which attempts to impose a complete system of compulsory sickness insurance on all the people in the United States. That plan would tax the people to raise four or five billion dollars a year to pour into Washington to be used by a federal bureau to pay all the doctors to give free medical care to all the people of the United States. It is not only a socialization of medicine, but it is the federalization of medicine. No other measure before the American people proposes such a tremendous increase in the right of the federal government to interfere with the daily lives of the people. It flies in the face of every principle for which the Republican party stands."

## IMPORTANT NOTICE TO ALL COUNTY MEDICAL SOCIETIES

On February 1, 1947, the American Association of American Physicians and Surgeons launched its first Annual Essay Contest for Junior and Senior High School Students on the subject, "Why the Private Practice of Medicine Furnishes This Country with the Finest Medical Care."

The Association is offering \$1,000 first prize, \$500 second prize, and \$100 third prize for the three best essays in the nation.

Essays must be limited to 1,500 words and the contest is open to junior and senior high school students of all schools, except sons and daughters of physicians.

Your county medical society is urged to sponsor a local contest and offer local prizes for the three best essays in your county. In the event your state medical society sponsors a state contest, the three winning essays in your county should be forwarded to state headquarters to compete for state prizes, with the three best essays in the state being sent on to the A. A. P. S. National Headquarters for participation in the national contest. However, if your state society does not sponsor a state contest, send the three winning essays from your county directly to the headquarters of the

Association of American Physicians and Surgeons at 11 South LaSalle, Chicago 3, Illinois, for entry in the national contest.

Medical leaders throughout the country believe that the A. A. P. S. Annual Essay Contest will constitute the most important contribution ever made to good public relations of organized medicine. Participation in the contest will require high school boys and girls to do research to become familiar with the reasons why the private practice of medicine provides this country with the finest medical care in the world. The contest affords medicine the opportunity of having its true and praiseworthy story reach the youngsters of all levels of population, and through them, their parents and teachers. Further, the contest provides the means for medicine to dig deep in the grass roots of public opinion with the factual narrative of its accomplishments in the public interest.

It is an easy task for your county medical society to sponsor a local contest and thus increase and enhance the value of the nation-wide event. Appoint a three-man essay committee. Have the committee contact local school officials and secure their interest and cooperation in publicizing the event in their classrooms and urging students to enter the contest. The committee should secure the help of local newspapers by asking them to run news stories on the contest. Support of parent-teacher groups should be sought and secured. Your society should award three cash prizes, amounts to be determined by your financial status. A committee of three judges should be selected, composed of a physician, teacher, and another member of the laity.

The county contest should end on March 30, 1947, in order to allow ample time for local judging, state judging, if any, and entry in the national contest. In order for essays to be considered in the national contest, they must be received at the A. A. P. S. National Headquarters not later than April 30, 1947. National winners will be selected by a committee of three, composed of a member of the national educational system, one lay citizen, and one physician, all of national prominence. National prize win-

ners will be announced and prizes awarded on or before May 15, 1947.

A. A. P. S. ANNUAL ESSAY CONTEST  
COMMITTEE,

JOSEPH C. BUNTEN, M.D., *Chairman.*

## COMMITTEE ACTIVITIES

### POSTGRADUATE STUDY

Postgraduate fund contributions are coming in slowly. Your committee would like to see physicians consider early in this new year of 1947 contributions toward the fund for medical education. Physicians everywhere are pressed by local groups for contributions, but it is believed this is a worthy cause among the profession's own interests within our own state. Please consider this fund for the year 1947 among your list of deductible allowances for income tax returns.

A few members of the profession rendering professional services to physicians' wives and families, always by custom without fee, but when urged to accept remuneration have mentioned this fund and found relatives, colleagues, and others quite willing to make a check for \$100 or more in favor of this fund. These have come in and been gratefully received. Other physicians' attention to this feature is invited with the information that one doctor alone has turned in five such \$100 contributions. Some members of physicians' families are reluctant to accept charity in form of professional services and are grateful for this opportunity. Try it, and you will be surprised how willing laity are to contribute to medical education in this matter.

Your committee is progressing slowly in the matter of locating a suitable instructor for "Psychiatry as Applied to the Practice of Medicine." The committee has had a dozen applicants, but when their credentials were sifted thoroughly, many were found not qualified in the judgment of the committee to give instruction at the postgraduate level, this either by past experience or training. The committee will gladly accept any suggestion from any member of the medical profession anywhere within the

state, giving the name and address of a possible instructor candidate in psychiatry, whom you might have met at some national meeting or clinic. Such a communication or suggestion should be addressed to Dr. W. C. Colbert, chairman, or Dr. T. S. Hill, co-chairman, Postgraduate Committee, University Center, 4 South Dunlap, Memphis 3, Tennessee.

### POSTGRADUATE FUND

The following is a list of contributors to the postgraduate fund since the November issue of the JOURNAL:

<i>Name</i>	<i>Amount</i>
49. Dr. Eben Alexander, Knoxville	\$100.00
50. Dr. H. C. Chance, Cumberland Gap	100.00
51. Dr. Fred F. Dupree, Knoxville	100.00
52. Dr. Edward C. Ellett, Memphis	100.00
53. Dr. Jesse C. Hill, Knoxville	100.00
54. Dr. C. B. LeQuire, Maryville	100.00
55. Dr. Drew A. Mims, Newport	100.00
56. Dr. L. S. Nease, Newport	100.00
57. Dr. Robert S. Pearce, Memphis	100.00
58. Dr. A. B. Qualls, Livingston	100.00
59. Dr. C. B. Roberts, Sparta	100.00
60. Dr. R. L. Sanders, Memphis (balance of pledge)	250.00
61. Dr. H. T. Kirby-Smith, Sewanee	100.00
62. Dr. J. Fred Terry, Cookeville	100.00
63. Dr. R. B. Wood, Knoxville	100.00

### PLEDGE

Tennessee State Medical Association Postgraduate Fund

4 South Dunlap, University Center  
Memphis 3, Tennessee

\_\_\_\_\_, 194\_\_\_\_  
I hereby pledge the following amount as a contribution to the Association Fund of Medical Education to assist in financing postgraduate study for twenty-five years in Tennessee:

\_\_\_\_\$1,000 \_\_\_\_\_\$\_\_\_\_\_ \$100

\_\_\_\_ M.D.

Address \_\_\_\_\_

County \_\_\_\_\_

\$ \_\_\_\_\_ Payable with this pledge attached; or

\$ \_\_\_\_\_ Payable now, and

\$ \_\_\_\_\_ Payable \_\_\_\_\_, 194\_\_\_\_,

(Month)

in time for receipt to be issued before  
income tax returns are made.

### MEDICAL EDUCATION COMMITTEE SPONSORS WEEKLY HEALTH COLUMN

Acting under recent authorization of the Board of Trustees, the Medical Education Committee will prepare a weekly health column for the newspapers of Tennessee. The column will make its appearance early in March.

The column of 200 to 300 words will be written by the Assistant Secretary of the Association in simple, lay style. The committee will review carefully the content of each column before it is offered to the press.

The purpose of the column is to supply the general public with authoritative health information. The column will not be used as a propaganda medium for the profession.

Officers and members of local societies are urged to contact their local editors and solicit their interest in this project. The Association would like to see the column appear as a regular feature in all newspapers; and a friendly, personal request from a local doctor will be valuable in securing the cooperation of the local newspaper editor.

Members of the Medical Education Committee are: W. C. Chaney, chairman, Memphis; R. C. Robertson, Chattanooga; D. C. Seward, Nashville; R. B. Wood, Knoxville; C. H. Sanford, Memphis; and John M. Lee, Nashville.

### NEWS NOTES AND COMMENTS

The Chattanooga and Hamilton County Medical Society unanimously elected Dr. Fred B. Stapp president-emeritus of the society. Dr. Stapp came to Chattanooga from the Bellevue Hospital in New York in 1894, one year after the founding of the society.

### FLEXNER LECTURES

Sir Edward Mellanby will be in residence as Flexner lecturer for 1947 at Vanderbilt University School of Medicine during the two-month period of March and April. Sir Edward, accompanied by Lady Mellanby, is expected to arrive at the University on



March 7. The five formal lectures of this series will be on the general subject, "The Experimental Method in Problems of Nutrition."

Joseph G. Burd, M.D., announces the opening of his office in the Bennie-Dillon Building, Nashville. Practice limited to Orthopedic Surgery.

The Twentieth Annual Meeting of the National Conference on Medical Service was held Sunday, February 9, 1947, at the Palmer House, Chicago, Illinois.

The Association of American Physicians and Surgeons is sponsoring an essay contest for high school students. The subject of the contest this year is "Why the Private Practice of Medicine Furnishes This Country with the Finest Medical Care."

The Knox County Medical Society has offered prizes for the best essay submitted by Knox County students. Other county medical societies are considering the contest.

Dr. Kyle C. Copenhaver of Knoxville has been asked to act as state chairman for the essay contest. Full particulars of the announcement of this contest appears in the column entitled "And We Quote."

## MEDICAL SOCIETIES

### *The Consolidated Medical Assembly*

The Consolidated Medical Assembly of West Tennessee met in regular session at the New Southern Hotel, Tuesday, January 7, 1947, at 6:30 P.M. for dinner. The minutes of the previous meeting were read by the secretary and approved.

The president appointed Dr. Frank A. Moore chairman with Dr. Jack Thompson and Dr. William Crook as a committee on public health.

The secretary read a letter from the Civil Aeronautics Administration to Dr. Frank Moore and a letter from Dr. Frank Moore to the Consolidated Medical Assembly asking that the application be approved by the assembly. Motion was made by Dr. Crook

and seconded by Dr. Saunders and Dr. Pearce and passed unanimously. Dr. Moore was notified by the secretary.

Dr. Crook read letters in regard to the Wagner-Murray-Dingell Bill that he had written to these people: Senator Taft, editor of the *Memphis Press-Scimitar*, editor of the *Commercial-Appeal*, and the United Press. These letters were endorsed by the Consolidated Medical Assembly.

The affiliation of Hardin County with the Consolidated Medical Assembly brought five new members into our society—namely: Drs. Bartow Williams, O. H. Williams, J. V. Hughes, Jr., O. C. Doty, and Otis Whitlow. Dr. David E. Stewart of Brownsville was also welcomed into the society as a new member.

The secretary was instructed to mail a check for \$200 to the National Physicians Committee from the treasury.

Dr. Frank Whitacre spoke on obstetrics, forming a symposium with Dr. Robert A. Hingson, who talked on obstetrics with particular reference to nerve block. Dr. Whitacre and Dr. Hingson are both from Memphis.

Visitors present: Dr. James P. Worden, Madison County Health Department, and Mr. Angus McDonald Crook, Jackson.

Members present: Drs. James O. Fields, O. C. Doty, C. F. Webb, Alvin Rosenbloom, Jere Crook, Leland Johnston, Helen Johnston, J. W. Morris, B. F. McAnulty, Henry H. Herron, H. N. Moore, John R. Thompson, Jr., W. G. Saunders, J. A. Jones, M. D. Ingram, G. H. Berryhill, Baker Hubbard, Hunter M. Steadman, Cecil Brown, Paul E. Wylie, Sam Parker, R. T. Hughes, John Jackson, J. W. Oursler, G. E. Spangler, E. Farrow, H. L. Armstrong, F. L. Keil, R. H. Morris, Jack Douglass, J. C. Pearce, E. L. Baker, John E. Powers, Otis Whitlow, H. P. Clemmer, David E. Stewart, T. N. Humphrey, Swan Burrus, J. T. Holmes, W. C. Ramer, E. E. Edwards, Charles H. Webb, Cornelia Huntsman, James D. Rozzell, Charles W. Davis, J. V. Hughes, Jr., and S. M. Herron.

*Blount County:*

The following were elected officers of the Blount County Medical Society for the year 1947:

Dr. R. H. Haralson, Maryville, President.

Dr. L. E. Vinsant, Maryville, Vice-President.

Dr. John T. Mason, Maryville, Secretary-Treasurer.

JOHN T. MASON, M.D., *Secretary.*

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*Davidson County:*

January 14: An address by Dr. F. Joseph Mullen, Dean of Students, School of Medicine, University of Chicago. His subject was "New Trends in Medical Education."

January 21: "Malignancy of the Rectum and Sigmoid," by Dr. Daugh W. Smith. Discussion led by Drs. L. W. Edwards and Charles C. Trabue.

January 28: "Management of Arterial Emboli," by Dr. James A. Kirtley, Jr. Discussion by Drs. John M. Lee, David Hailey, and F. T. Billings, Jr.

February 4: "Mobilization of Stiff Finger Joints," by Dr. S. Ben Fowler. Discussion by Dr. Murray B. Davis.

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*Four County Society:*

The organization of a Four County Medical Society was perfected at a recent meeting of physicians of the participating counties of Maury, Lincoln, Lawrence, and Giles that was held in Pulaski.

Dr. C. M. Hamilton, Nashville, was the guest speaker, whose subject was "The Shortage of Doctors in Rural Areas," and led the discussion of plans for improvement of existing conditions. Following the discussion, the group went on record to sponsor plans to encourage students to study medicine and upon graduation to locate in small communities for the general practice of their profession.

Dr. W. M. Hardy of Nashville discussed the various ways by which county medical societies could be combined. In some instances the societies desired to form an organic union. In other cases, the societies preferred to retain their own organizations and combine for scientific programs only.

Beginning in March with a meeting at

Lawrenceburg, quarterly meetings of the society will be held each year with each county organization serving as host at the respective county seats.

Presiding officers at the quarterly meetings will be the following presidents of the county societies: Dr. Ben Marshall, Lincoln County; Dr. Jim Miller, Maury County; Dr. Leo Harris, Sr., Lawrence County; and Dr. W. J. Johnson, Giles County.

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*Franklin County:*

New Officers for 1947 are as follows:

Dr. George L. Smith, Winchester, President.

Dr. R. R. Gattling, Sewanee, Vice-President.

Dr. James P. Moon, Winchester, Secretary-Treasurer.

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*Giles County:*

The following were elected officers of the Giles County Medical Society for the year 1947:

Dr. J. H. Morris, Pulaski, President.

Dr. A. W. Dean, Pulaski, Vice-President.

Dr. J. U. Speer, Pulaski, Secretary-Treasurer.

J. U. SPEER, M.D., *Secretary.*

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*Hamblen County:*

The newly elected officers are:

Dr. D. R. Roach, Morristown, President.

Dr. J. K. Cooper, Morristown, Vice-President.

Dr. D. J. Zimmerman, Morristown, Secretary-Treasurer.

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*Hamilton County:*

Dr. Joseph B. Killebrew was named president-elect of the Chattanooga-Hamilton County Medical Society for 1947. Dr. Robert C. Robertson, the 1946 president-elect will succeed to the presidency. Dr. Moore J. Smith was elected secretary-treasurer.

Among projects on the 1947 agenda of the Medical Society is resumption of the annual clinical congress, which had to be suspended. This congress brings together all the doctors of the territory for work, demonstrations, and lectures on the newest medical and surgical approaches.

On January 16, Dr. C. M. Hamilton, Nashville, president of the Tennessee State Medical Association, and Dr. W. M. Hardy, Nashville, secretary-editor, were guests at the meeting of the society.

Dr. Hamilton discussed the distribution of physicians in Tennessee. Dr. Hardy called attention to the contract with the Veterans Administration for the home-town care of disabled veterans.

#### *Henry County:*

The Henry County Medical Society met in regular session on January 23 with Dr. Henriette Veltman, president, presiding. Twelve members of the society were present. The following officers were elected:

Dr. W. Gardner Rhea, Paris, President.

Dr. E. B. Paschall, Paris, Vice-President.

Dr. R. Graham Fish, Paris, Secretary-Treasurer.

R. GRAHAM FISH, M.D., Secretary.

#### *Knox County:*

January 21: "The Use of Adrenal Cortex in Hyperemesis Gravidarum," by Dr. Charles W. Black. Discussion by Drs. John Leshner and Richard McIlwaine.

February 4: "Radioisotopes in Relation to Investigative Medicine," by Dr. Paul C. Aebersold.

Dr. Aebersold has been associated with Dr. Ernest Lawrence at the University of California since 1932, at which time the cyclotron was first developed. He came to Oak Ridge in 1944 in a liaison capacity between the various plants. At the onset of the war he began working with uranium extraction prior to coming to Oak Ridge. After a year at Oak Ridge he went to Los Alamos for the bomb tests and returned here after the war's end to assume direction of the peacetime program of radioisotopic distribution.

#### *Lawrence County:*

On January 29, the doctors of Lawrence County met and reorganized their County Medical Society. Formerly the county was a part of the Five County Medical Society, composed of Hardin, Lawrence, Lewis, Perry, and Wayne.

As the Five County Medical Society voted to disband, the Lawrence County physicians decided to reorganize. Dr. C. D. Walton, Councilor, was present. Officers elected were:

J. W. Danley, President.

V. H. Crowder, Vice-President.

L. C. Harris, Jr., Secretary-Treasurer.

L. C. Harris, Sr., Delegate.

T. J. Stockard, Alternate.

#### *McMinn County:*

Officers for 1947 are as follows:

Dr. H. C. Miles, Etowah, President.

Dr. L. H. Shields, Athens, Vice-President.

Dr. Helen M. Richards, Athens, Secretary-Treasurer.

#### *Rutherford County and Stones River Academy of Medicine:*

A meeting was held January 8 with sixteen members present.

Dr. J. B. Black read a paper on "The History of Hospital and Health Organizations in Rutherford County."

The newly elected officers are: Dr. V. S. Campbell, Murfreesboro, President; Dr. Carl Adams, Woodbury, Vice-President; Dr. L. M. Kennedy, Murfreesboro, Secretary-Treasurer.

LOIS M. KENNEDY, M.D., Secretary.

#### *Sumner County:*

New officers for 1947 are as follows:

Dr. R. B. Turnbull, Gallatin, President.

Dr. Albert G. Dittes, Portland, Vice-President.

Dr. W. B. Farris, Gallatin, Secretary-Treasurer.

#### *Weakley County:*

The newly elected officers for 1947 are:

Dr. M. H. Buckley, Martin, President.

Dr. R. M. Jeter, Gleason, Vice-President.

Dr. G. S. Plog, Martin, Secretary-Treasurer.

### OTHER MEDICAL SOCIETIES

#### VANDERBILT MEDICAL SOCIETY

1. Case report: "Coronary Occlusion Treated with Heparin and Dicoumarol." By



Drs. R. H. Furman, R. G. Gale, G. R. Meneely, and F. T. Billings.

A seventy-five-year-old white male paper hanger was admitted to the Vanderbilt Hospital with typical symptoms and electrocardiographic findings of posterior myocardial infarction. He was treated with heparin both intravenously and by repeated intramuscular injection and by dicoumarol orally. An attempt was made to maintain the clotting time between thirty and sixty minutes (Lee White method) and the prothrombin concentration between ten and thirty per cent of normal, using the Link and Shapiro modification of the Quick prothrombin determination method.

The patient's convalescence was not remarkable other than for the development of numerous auricular premature beats and occasional ventricular premature beats.

At no time did the patient exhibit any manifestations of excessive anticoagulant therapy.

There were no thromboembolic phenomena at any time.

The patient was discharged markedly improved on the fortieth hospital day. At this time the prothrombin concentration and the coagulation time were normal.

This is the first case of a current series studied to observe the effect of anticoagulant therapy on this disease, especially in the prevention of extension of an already existing thrombus, the prevention of the development of mural thrombi and free thrombi within the chambers of the heart.

This case was discussed by Drs. G. R. Meneely, F. T. Billings, W. R. Cate, and Barney Brooks.

2. "Transurethral Prostatectomy." Colored moving pictures. By Dr. Oscar W. Carter.

This presentation was discussed by Drs. Burnett Wright and E. H. Barksdale.

3. "The Origin of a Primary Mesoderm by Induction." By Dr. Walter R. Spofford.

Although it is well known that the neural plate in the salamander arises by induction from the underlying chorda-mesoderm, the presence of a considerable amount of mesoderm in the posterior part of the neural plate raises into question the nature of its

origin, *i.e.*, whether, like other mesoderms, it has intrinsically the capacity to self-differentiate, or whether, like other neural plate, it is at first indifferent and gains its specific differentiating capacity by means of an extrinsic induction.

The inductive capacity of the chorda-mesoderm underlying the posterior part of the neural plate was tested by means of removing the posterior neural plate in twelve neurulae and substituting for it the as yet indifferent prospective body ectoderm of a beginning gastrula. In each case, the graft ectoderm, which had been stained in the vital dye Nile-blue sulphate, formed somites instead of neural tissue, as is the case of induction from the more anterior parts of the "organizer" regions.

In a second experiment, a much larger part of the neural plate was removed, including both neural and mesodermal regions, and in this case each graft formed spinal cord in its anterior part and somites in its posterior part. This demonstrates that the graft prospective ectoderm is capable of forming either neural or mesodermal structures, and that in the posterior neural plate region the inductive stimulus is of mesodermal and not neural nature. This suggests that posterior neural plate mesoderm arises by induction.

This paper was discussed by Drs. G. A. Milikan, S. L. Clark, and W. E. Garrey.

## ABSTRACTS OF CURRENT LITERATURE

### ANESTHESIA

By H. M. AUSHERMAN, M.D.  
Medical Arts Building, Chattanooga

Safety of Anesthetics. L. J. Alger, M.D., *Journal of American Medical Association*, December, 1946.

Statistical studies comparing the safety of the various anesthetic agents have never been entirely satisfactory. The argument regarding the comparative safety of ether and chloroform continued until the end of the nineteenth century. Its settlement, if it may be considered settled at present, was not made on the basis of statistics, but rather as a result of experimental studies on laboratory animals. Reasons for the unsatisfactory nature of statistical evaluation of the anesthetic

drugs are numerous. One of the most important is the influence of the manner of administration. The dose of agents, the technics used, and the early recognition and treatment of undesirable side effects have more to do with safety than does the choice of agent.

To compare ether, ethylene, and pentothal sodium is unsatisfactory because they are useful for different purposes. Ethylene, for instance, is distinctly less potent than ether and would therefore be used for less extensive and severe operations on patients often in better physical condition.

N. A. Gillespie has reported statistical studies dealing with deaths during anesthesia. (Anesthesiology, Vol. 5, p. 113, 1944; British Journal of Anesthesiology, Vol. 19, p. 1, 1944.) In a general hospital over a ten-year period he reported deaths in the operating room as follows:

	No. Cases	Deaths During Anesthesia	Per Cent
Ether	9,741	12	0.123
Pentothal	1,568	2	0.1275
Ethylene	1,172	0	

In the same hospital over a four-year period he found deaths to have occurred during residence in the hospital as follows:

	No. Cases	Deaths in Hospital	Per Cent
Ether	5,203	123	2.3
Pentothal	1,382	24	1.7
Ethylene	224	3	1.34

According to these figures, ethylene appears to be the safest agent, and yet careful reading of Gillespie's papers convinces one that no such conclusion can be drawn.

## CARDIOLOGY

By J. ALLEN KENNEDY, M.D.  
Bennie-Dillon Building, Nashville

The Renal Origin of Hypertension. Harry Goldblatt. Physiological Reviews, Vol. 27, pp. 120-165, January, 1947.

This review by Goldblatt, which is extremely well done, is for the purpose of summarizing the evidence accumulated since a similar review made in 1940 by Blalock.

There is no reasonable doubt that some cases of human hypertension are of renal origin. The unsolved problem is whether most of those still referred to as "essential hypertension" are also of renal origin. In most cases of hypertension associated with glomerulonephritis, pyelonephritis, and polycystic disease of the kidneys, the kidney disease precedes the hypertension. It is also a fact known for many years that many patients who have long standing hypertension without evidence of renal impairment during life have evidence of sclerosis of the arteries and arterioles of the kidney at autopsy.

One fact agreed upon at present by everyone is that the mechanism of the elevation of blood pressure is a widespread increase of peripheral vascular resistance, that is, the tone of the systemic arterioles is increased.

This type of problem is very difficult to study in humans because of the inability of obtaining biopsy specimens of the kidney before and after the development of hypertension. Therefore, most of the investigation has been done in experimental animals. The method of producing permanent hypertension in animals by artificially restricting the blood flow through the kidney has greatly simplified this complex problem. Persistent hypertension of this type can be caused in dogs, monkeys, rabbits, sheep, and goats. It has now been proved beyond a reasonable doubt that this type of experimental hypertension is not caused through any direct nerve connection.

On the contrary, kidney transplant experiments have suggested strongly a humoral or chemical basis for the hypertension. A generally accepted terminology for the chemical substances involved has not been established, and none of the substances has yet been isolated in pure form.

In recent years evidence has accumulated which indicates that the normal kidney plays a part in the regulation of normal blood pressure by secretion of *renin*. This substance is an enzyme, enters the blood stream from the kidney, and acts upon *hypertensinogen*, which is a globulin in the blood plasma. This action produces *hypertensin* (angiotonin), which is an active vasoconstrictor. Hypertensin can be acted upon by *hypertensinase*, an enzyme which renders it inactive. Hypertensinase occurs in the blood and in the extracts of some organs.

Goldblatt's review contains a complete summary of the physical and chemical properties of these substances which are involved in experimental renal hypertension in animals.

It is not yet generally accepted that human essential hypertension and experimental renal hypertension are similar, and there are certain significant differences. Sympathectomy may result in a fall of blood pressure in human hypertension, but there is little or no effect in experimental animals which do not normally stand erect. There are indications that the adrenal cortical hormones play a secondary role in some types of hypertension.

Goldblatt ends his review by saying that it would be remarkable if human essential hypertension does not prove to be of renal origin.

## DERMATOLOGY

By CLARENCE SHAW, M.D.  
1013 Provident Building  
Chattanooga 2

Atopic Dermatitis of the Hands Due to Food Allergy. H. H. Rowe. Journal of Archives of Dermatology and Syphilology, Vol. 54, p. 683, December, 1946.



Dermatitis of the hands may result from atopic allergy to foods. In a series of 182 patients with dermatitis on the hands, Rowe found that foods were responsible in forty-four per cent, most of whom were females. In seventy-five per cent of the patients, areas of skin other than the hands were also involved. The dorsa of the hands or fingers were more frequently affected than the palms. Flare-ups of the eruption in food sensitive persons frequently occurred during the fall, winter, and spring months. A family or personal history positive for allergy and a dietary history suggestive of food allergy are not necessarily present, although twenty-four per cent required treatment for a pollen sensitivity at the same time. Fungous allergy was an insignificant factor, although irritation of the skin of the hands from housework as well as other occupations and avocations help to accentuate potential sensitization to food in the skin. The diagnosis and control of food allergy in these cases were made possible because of the author's use of his standardized elimination diets rather than skin tests, which he feels are not infallible.

## GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.  
649 Doctors Building, Nashville

**Thrombophlebitis and Phlebothrombosis in Gynecologic Patients: The Prophylaxis, Recognition, and Treatment.** Joe V. Meigs, M.D., and Frances M. Ingersoll, M.D., Boston, Mass. *American Journal of Obstetrics and Gynecology*, Vol. 52, No. 6, pp. 938-945, December, 1946.

Venous thrombosis with its danger of fatal pulmonary embolus is an important problem in the care of gynecologic patients in New England. Prior to 1925, Davis found the incidence of fatal pulmonary emboli to be three in each 1,000 major surgical cases. In the years when exercise, posture, and other conservative measures were used to prevent embolism in the surgical wards of the Massachusetts General Hospital, fatal embolism occurred in approximately one out of each 800 major surgical operations. Faxon and Welch, in analyzing cases of deep thrombophlebitis, found that one out of three cases had a pulmonary embolus, and one out of twenty-five had a fatal embolus. Miller and Rogers reported seven deaths out of 206 cases of thrombophlebitis. In patients who had had an infarct, Faxon and Welch found that the second embolus was fatal in ten per cent of the cases. In patients aged fifty to seventy years with deep thrombophlebitis, the expected mortality is twenty per cent. Because of the seriousness of embolism in cases of thrombophlebitis, a means was sought to prevent fatalities from this cause in postoperative patients. Femoral vein ligation had been advocated by several German

authors, including Kulenkampf and Frund, and in this country by Homans and Taylor. The first ligation of the superficial femoral vein at the Massachusetts General Hospital was done in 1937. Since that day in the wards and in the private services of the hospital to December 31, 1945, 1,057 have been done. At the present time it is the consensus of opinion in our hospital that failure to ligate the veins of a patient who has had a non-fatal pulmonary embolus or a patient who has definite signs of either thrombophlebitis or phlebothrombosis at once constitutes a serious neglect of the patient. The danger of our present feeling in regard to this phenomenon is that interruption of the femoral vein is probably carried out in patients who do not have anything wrong with their veins, and an unnecessary operation is done. Yet the avoidance of doing a simple procedure to save a patient's life, especially when it is known that the operation is of no serious import, is not to give the patient the best treatment. It is probable and possible that anticoagulants will prove to be satisfactory in the long run, but anyone who has seen a huge blood clot removed from the femoral vein cannot but feel more secure if the vein has been divided. If a patient with an old phlebitis is to be operated upon, it is the duty of the surgeon on the gynecological service to tie off the superficial or common femoral vein before operation or at the conclusion of operation as a prophylactic measure. This is one of the problems of prophylactic vein ligation. A footboard is placed at the bottom of the bed, and the patient is urged to keep herself up in bed by pressure with her feet against the footboard. This is satisfactory during the daytime, but is omitted at night, for it interferes with sleep. Bicycle exercises are kept up until the patient is out of bed. Early mobilization (first, second, or third day) has been the rule until very recently. Lately, because many gynecologic patients are fatigued, anemic, and worn out, and need rest as well as surgery, early mobilization has been changed to allowing patients out of bed when they ask to get out, and always before the tenth post-operative day. Anticoagulants are not used as a routine on the gynecologic service. There is no doubt of their value. If an embolus follows ligations of veins, and it can and does occur, but not fatally, dicoumarol is given for ten days, making sure that the prothrombin time is definitely raised. If the prothrombin time is not changed, the value of dicoumarol is certainly open to question. The surgical treatment of thrombophlebitis and phlebothrombosis consists of the interruption of the vein above the clot. Both legs must be operated upon, for if thrombosis has occurred on one side, it may be present on the other, and patients have died when the apparently affected vein alone has been tied, the other leg being the source of the embolus. The technique for ligation and difficulties encountered are discussed. There has been no immediate mortality from the operation for ligation.



tion of the femoral veins and, except for an occasional lymphorrhea from the wound, no serious complications have occurred. In other hands, the femoral artery has been mistaken for the femoral vein and ligated. This is mentioned only because it has been done. Common femoral vein ligation, however, is followed by swelling of the legs in a larger percentage of cases. If the saphenous vein and the common femoral vein are both ligated, it is quite likely that swelling of the leg will follow. In cases where the saphenous has been previously ligated, it is well before tying off the common femoral vein, to see how much venous pressure there is in the distal femoral vein before ties are placed about the common femoral. The superficial femoral can be tied safely along with the saphenous, but when all three are to be ligated, due consideration should be given to the filling of the distal vein before ligation. Tension in that vein should indicate that the surgeon should not be too radical. After ligation of the veins of the legs, even if there are signs of a definite phlebitis, early mobilization may be carried out. Often the legs are tender after ligation, for there may be a clot below the point of ligation and distention occurs due to this clot and is responsible for the tenderness. Some believe that post ligation tenderness is indicative of the fact that there was a phlebitis present before operation. It is more likely that a clot has been formed due to the ligation and distention of the vein caused tenderness. Clots were found at the time of ligation in nineteen per cent of the patients operated upon on the gynecologic service. It is most satisfying to find clots in the veins at the time of ligation because the operator feels he has accomplished something. It is much safer however, to operate when thrombosis is thought to be present and to believe that the operation was done before propagation of the clot occurred.

#### INDUSTRIAL MEDICINE

By JEAN SPENCER FELTON, M.D.  
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Tuberculosis in Industry. Frederick Heaf. British Medical Journal, Vol. 2, p. 975, December 28, 1946.

To those studying the relation of tuberculosis to industry, the inability to determine the degree of disablement, the possibility of infection in those apparently recovered, or the uncertain prognosis of all, present endless problems. The employer desires to utilize the disabled, but fears infection and reduced working capacity.

Most individuals over thirty have received and recovered from their primary contact with the bacillus; the age of reception, however, is rising. The healed primary complex, which confers a certain immunity, may reactuate the lesion, and cause reinfection type pulmonary lesions elsewhere, if resistance is lowered. The age group showing the highest incidence of tuberculosis is rising, partic-

ularly in males. Active infection is being found more often than before in the experienced worker. Some portion of the rise results from the increased rate of case discovery.

In industries showing dust, there is usually a higher worker incidence of phthisis. This fact makes the preplacement and periodic chest films essential. With the development of a simple silicosis, dormant lesions may become active. Mortality figures show that light work under bad conditions may be more harmful than heavy work under good conditions. Poor economic conditions and inhaled chemical irritants are influencing factors.

With the increase in age incidence, mass miniature radiographic measures are indicated. Surveys have revealed 3.5 per cent sputum positive cases per thousand examined. Eight per thousand present lesions of clinical significance, but the difficulty of appraising the activity remains largely a matter of guesswork.

Closer rapport among the plant medical director, management, labor, and government health officials is mandatory to clarification of case finding. The author feels that the time has come to treat the problem realistically, and two most important principles are that the employment of the tuberculosis must not disturb the relationship between management and labor by introducing special privileges and conditions for a selected few employees, and that the tuberculosis person may be employed at work requiring low energy output, but while he works he must complete his duties, and not expect that he can slack because he is tuberculous. Recent rehabilitation legislation has started active employment, and the return to industry of former tuberculosis individuals.

The Philadelphia International Ladies' Garment Workers Union Health Plan. Joseph A. Langhord and Samuel C. Stein. Industrial Nursing, Vol. 5, p. 42, December, 1946.

The publication in 1946 of *Occupational Medicine* by the American Medical Association, in addition to the ten-year-old Council on Industrial Health, reveals the present place in medicine assumed by occupational diseases. The authors desire to present the place of nonoccupational disease in industrial medicine, and offer a plan acceptable to employer, employee, and physician. Such a plan has seen two successful years of operation in Philadelphia by the I. L. G. W. U.

The optimum output of labor has not been obtained, for industry has failed properly to integrate medicine into its operating scheme. Industrial medicine should be concerned in preventing illness, promoting better health, and obtaining improved levels of health for the maximum operation of labor. Nonoccupational illness loses eleven days for the average male worker and thirteen for the female. The major cause of disability is chronic disease, yet only eighteen per cent of a physician's

case load represented this group. The low demand of medical service by the chronic sufferers is ascribed mainly to their low economic status.

Preventive medicine has become the keynote to the health maintenance of the worker. This is effected through periodic examinations, laboratory studies, and X-ray surveys, and so far, few practitioners have found it economically practical to furnish this type of service. The needle trade in Philadelphia was without medical service in ninety-two per cent of its units. The leaders of the I. L. G. W. U. maintained that since production is the only source of wages and industry the only source of production, industry should then become the source of health improvement. A new health enterprise was undertaken with the manufacturers assuming the monetary obligation, and management of the plan is the function of the union. The manufacturers assessed themselves 3.5 per cent of their annual pay roll to finance the venture.

The following services are offered: (1) Care for nonoccupational illness of the chronic ambulatory patients who are unable to afford private care; (2) medical center to render a comprehensive diagnostic service; (3) health education program; (4) care for industrial injuries and illnesses; (5) supplemental diagnostic, consultative, and therapeutic service for the physician chosen by the patient or the physician referring patients. The plan functions under a medical director and an administrative director, and there are general medical and consultative sections in the medical staff.

It is hoped that such a service may aid in reducing the 400,000,000 days of work lost annually through all types of disability.

## OBSTETRICS

By MILTON SMITH LEWIS, M.D.  
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### Disputed Indications and Technics for Cesarean Section.

E. G. Waters. *New England Journal of Medicine*, No. 234, pp. 849-853, 1946.

It is the purpose of this paper to discuss the most frequently disputed indications for cesarean section and to state the position currently arrived at in respect to them and to the technics preferred.

In the author's clinic, obvious fetopelvic disproportion in primiparas raises no dispute as to elective cesarean section, but these cases form a distinct minority. The majority of cases constitute the "borderline pelvis" group. With regard for those factors which cannot be determined in advance of labor (size, shape, and moldability of fetal head, physiologic relaxation of pelvis joints, thickness and tension of nonossous pelvis structures, character of uterine contractions, time factor in dilatation and effacement of the cervix, etc.), sufficient labor is allowed to borderline cases to permit the primiparous patient to demonstrate her capability for vaginal delivery.

Cesarean section is no longer performed in cardiac cases unless there is an obstetric indication for the operation. The incidence of decompensation has been reduced from 22.3 to 2.5 per cent, and the mortality from 3.5 to 0.6 per cent, largely through competent medical care and the elimination of operative interference for other than obstetric indications.

In regard to abruption of the placenta or premature separation of the placenta, cesarean section would not be indicated in a multiparous patient with an effaced cervix approaching full dilatation or in any patient with shock or hemorrhage without first re-establishing blood volume, overcoming anoxia, and combating shock. On the other hand, it is indicated when complete abruption occurs with the cervix and birth tract unready for delivery, when means are at hand for combating shock and blood loss. The individual case determines the policy to be followed.

The author's attitude toward pre-eclampsia and eclampsia is conservative. Cesarean section is not performed in eclampsia unless the patient is controlled and operable. Patients with pre-eclampsia are treated medically unless the toxemia is progressive or recurrent, in which event termination of the pregnancy is advised, since babies delivered early in a severely toxemic pregnancy have a better chance than those carried nearer to term, and damage to maternal structures parallels the duration of the toxemia. Cesarean section was performed in 61 (6.9 per cent) of 879 cases of mild pre-eclampsia, with no maternal deaths. Section was done in 26 (22 per cent) of 117 cases of severe pre-eclampsia; thus, the need for cesarean section in severe pre-eclampsia is three times as great as in the mild group. Cesarean section was performed in 20 (8 per cent) of 236 cases of eclampsia. The operation is not employed if the patient appears about to have convulsions. It is occasionally done when the convulsive state has been completely overcome, and it is sometimes necessary when abruption of the placenta occurs, but eclampsia should be one of the rarest indications for cesarean section.

In 213 pregnancies in hypertensive patients carried past twenty-eight weeks, cesarean section was performed in twenty-eight cases with a maternal mortality of four per cent and a fetal mortality of twenty-five per cent. In 185 vaginal deliveries the corresponding rates were one and twenty-four per cent.

Another indication for cesarean section is placenta previa. Of 341 cases, cesarean section was performed in 104, with no deaths. Among the 237 patients delivered vaginally there were two deaths.

Classic cesarean section is reserved for those cases in which the uterus is to be removed. There is no valid reason for electing the classic operation in placenta previa, and in the author's opinion, the lower-segment operation is always safer and better. The preference is for low-segment opera-



tion with transverse cervical or isthmal incision. It is believed that the Porro operation, as employed in septic cases, is not indicated. In over 500 cases of extraperitoneal cesarean section the mortality rate has been one per cent. It is no longer believed that patients die from myometritis, parametritis, or pelvic cellulitis, provided the infected areas are drained, but they still die from peritonitis. In all septic parturient patients, the peritoneal cavity should not be opened. Except for vaginal delivery, extraperitoneal cesarean section is the only way of preventing this. Either the paravesical (Latzko) or the supravescical (Waters) is good, with definite advantages favoring the latter.

## OPHTHALMOLOGY

By ROBERT J. WARNER, M.D.  
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Penicillin Treatment of Ocular Inflammation. I. C. Fraser and A. A. B. Scott. *American Journal of Ophthalmology*, December, 1946.

The details of thirty-eight cases of blepharitis and conjunctivitis in the treatment of which penicillin was used topically are presented in tabular form. The solution used contained 500 units per cubic centimeter and was instilled every four hours. In eight cases lamellae of penicillin containing 180 or 100 units were used every four hours. In eight cases lamellae of penicillin con- results were most striking. Blepharitis, that had existed for twenty years, was cured completely in a few days. Two patients with Eales' disease were not benefited by penicillin.

## PROCTOLOGY

By O. C. GASS, M.D.  
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Perforating Wounds of the Colon and Rectum. Bently P. Colcock, M.D. *American Journal of Surgery*, Vol. LXXII, No. 3, September, 1946.

In the opinion of the majority of surgeons during the recent World War II, perforating wounds of the abdomen made greater demands on the skill and experience of the operating surgeons than wounds of any other part of the body.

The primary objective in the treatment of perforating wounds of the colon just as in the treatment of battle wounds of any other type is the preservation of the patient's life. To do this, three fundamental principles must be kept in mind. First, the perforation must be dealt with in such a manner that further leakage of intestinal contents into the peritoneal cavity is prevented; second, the manner of closure must be such that there is no marked impairment of the bowel lumen; and last, the procedure should be one that will add a

minimum of shock to a patient already suffering from exposure, loss of blood, and the trauma of a severe wound.

That marked progress toward this objective is shown by a comparison of the mortality figure of World War I and World War II. In World War I, the mortality rate ranged from fifty to seventy-five per cent. In World War II, it had dropped to about thirty per cent. Of course, having blood available, the extensive use of the sulfonamide drugs and penicillin has helped remarkably well to show a decrease in mortality. The author states that more than either of these factors it is due to the high degree of technical skill employed by the surgeons.

As the mortality decreased, it became possible to concentrate on a secondary objective, namely, to decrease the high morbidity associated with these wounds. Frequently complications arose that jeopardized the life of the patients.

Exteriorization of the injured segment of the colon has become an accepted principle in the treatment of the majority of perforating wounds of the large bowel. However, it is obvious that the bowel must not only be exteriorized, but it must be exteriorized without tension. If there is any tension on the exteriorized segment, it will inevitably retract regardless of the type of support which is used to hold it above the skin. In twenty-eight per cent of the cases of the group abscesses of the abdominal wall, adjacent peritoneal cavity or subphrenic space occurred. As experience increased and the problem of the forward surgeons were correlated with those of the men caring for these patients in the general hospital to which they were evacuated, a decreased morbidity occurred to that in mortality. In this last group of ninety-five cases only eleven per cent had retraction of their colostomy to the level of the skin or beneath, and only two of these patients had associated abscesses. In order to decrease as far as possible the high incidence of laparotomy wound suppuration and separation in these cases, the colostomy was routinely brought out through a separate lateral, muscle splitting incision. The essential objections and fundamental principles of surgery of the colon following both injuries are the same as these underlying surgery of the colon in peacetime.

The treatment of wounds of the upper ascending colon, hepatic flexure transverse colon, splenic flexure, descending colon, and sigmoid will depend largely on the extent and position of the perforation. If the perforation is relatively small and involves the antimesenteric aspects of the bowel wall exteriorization of the injured segment as a loop, colostomy offers a safe and quick method of treatment. If the wound involves one-half or more of the circumference of the bowel, or if it involves the mesenteric border, a somewhat different situation exists. Here the exteriorization principle is



undoubtedly safer, and if the wound involves the mesenteric border, it necessitates complete division of the bowel to obtain an adequately functioning colostomy. It should be emphasized again that, regardless of what type of colostomy the operator elects to do, the bowel should be sufficiently mobilized so that it can be brought out well above the surface of the abdominal wall without tension.

It is generally accepted that there are two essential features in the treatment of a perforating wound of the rectum: First, the establishment of a colostomy, and, second, adequate drainage of the perirectal space. A difference of opinion arises as to what type of colostomy should be used. In any opinion the vast majority of perforating wounds of the rectum can best be handled by mobilization of the sigmoid colon, complete division of the bowel at that point, and the approximation of the two sigmoidal loops by one or two rows of interrupted sutures to form a double-barrel Mikulicz colostomy.

In this last group of ninety-five cases, there were thirty-six double-barrel spur colostomies, fifty-five loop colostomies, and four cecostomies. No instance of spreading peritonitis was seen after closure of the loop colostomy even though all were replaced in the free peritoneal cavity. No complications were associated with the clamping of the spur in thirty-six double-barrel spur colostomies. No patient required a secondary cecostomy following the closure of his colostomy, although in several patients with a loop colostomy on the left side it was four to five days following closure before they were able to pass gas by rectum.

## ROENTGENOLOGY

By P. H. DIETRICH, M.D.  
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### The Roentgen Treatment of Bursitis of the Shoulder.

Barton R. Young, M.D. *American Journal of Roentgenology and Radiotherapy*, Vol. 56, p. 626, November, 1946.

Dr. Young reports the results of roentgen therapy in bursitis of the shoulder in eighty-seven patients. Of this number, sixteen were acute, twenty-three subacute, and forty-eight chronic. Fifty-six of the eighty-seven patients were females.

The importance of a careful history and its evaluation with the clinical and roentgen findings before instituting roentgen therapy are stressed. Agonizing pain in the shoulder, usually worse at night and aggravated by motion of the arm, point tenderness over the greater tuberosity area of the humerus, and local heat and swelling characterize the acute form. In the subacute and chronic forms, the pain is less severe, but motion is more restricted. Roentgen examination is considered a necessary procedure to establish or rule out the presence of arthritis, fracture, osteoporosis, primary and

metastatic bone disease, and calcification in the soft tissues adjacent to the humeral head. The importance of calcification in the soft tissues is depreciated and its presence considered unreliable evidence of active disease since in many patients such calcification exists without symptoms, whereas others with severe symptoms present no calcification. The incidence of calcification in the author's series is 43.6 per cent, and this percentage is practically the same for each group.

The physical factors employed by Dr. Young in the treatment of this series are 180 kilovolts, fifty milliamperes, fifty centimeter target-skin distance and five-tenths millimeter copper plus one millimeter of aluminum filtration. Port size was either ten by fifteen or fifteen by fifteen centimeter, and the beam was directed to the anterior or anterolateral aspects of the shoulder, depending upon the site of involvement. The individual dose was 150 r, measured in air. The acute cases received from one to three daily doses with an additional dose in one week if necessary. Some of the subacute cases received the same treatment while others were treated twice a week for two weeks.

Forty-eight patients with chronic shoulder pain were treated as follows, depending upon the severity:

Twenty-nine were treated twice a week for two weeks, eleven were treated once weekly for four weeks, and eight received daily doses for three consecutive days, followed by a fourth treatment after an interval of one week. The time between treatments made no perceptible difference in the results in this group.

Dr. Young considers this form of treatment very valuable in cases with acute and subacute manifestations of bursitis. In his series the pain in all but two of the acute cases was relieved, and the majority were well in one week or less. Although the responses in the subacute cases were not as prompt, more than two-thirds reported complete relief of pain in two weeks, and only a few reported no relief. Of the chronic cases, however, half reported no relief and only about a third were considered cured. A second series of treatments were of no apparent benefit in unrelieved chronic cases.

The results with recurrent bursitis were similar to those obtained in initial bursitis.

## UROLOGY

By BURNETT W. WRIGHT, M.D.  
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Anuria Resulting from Allergic Edema Following Administration of Sulfadiazine in a Patient with Asthma. Aaron N. Finegold, *Urological Clinic, Beth Israel Hospital. The Journal of Urology*, Vol. 56, No. 6, December, 1946.

The author states that anuria has resulted from the administration of the sulfonamides in so large a group of patients that the condition is well known by the medical profession at large. In most instances anuria is proven to be due to obstruction of the efferent channels, and sometimes of the tubules, by the crystals of the acetylated forms of the drugs. So common is this manifestation of untoward effects of the sulfonamides that anuria is commonly assumed to be the result of that condition. Publications have appeared in which it has been set forth that anuria can occur in patients in whom the ureters are not obstructed and where there is not crystal formation in the urine. (Prien.) The nature of these latter conditions appear to be less well publicized. Their cause appears to be tubule damage from the drugs. So far there is not any clear definition of just what conditions in the patient may favor such tubule injury.

It is true that tests of the effectiveness of the sulfonamides have been made on most of the common diseases, including asthma. There have been a few facts to indicate that there may be an interrelation in the production of the complication of anuria between diseases. He reports a case in evidence of an apparent interrelation of factors where sulfonamides were administered during the acute phase of an attack of asthma. The patient had had many similar asthmatic episodes without urinary symptoms, but complete suppression of urine occurred when relatively small amounts of sulfadiazine were administered. Resumption of excretion was immediately noted on institution of treatment of one of the conditions—namely, the angioneurotic edema. There were no crystals demonstrable in the urine, and the ureters were shown to be unobstructed. In each of two instances of anuria which occurred in this patient there was prompt resumption of excretion in adequate amounts within approximately one hour on each occasion after administration of adrenalin and aminophyllin. He has no knowledge of the occurrence of any similar phenomena, nor has he knowledge of the administration of the sulfa drugs in acute severe asthmatic disease.

The above unusual association of possible causal factors makes a consideration of each of them separately imperative.

Angioneurotic edema of the urinary tract has been reported but appears to occur as the exception rather than the rule in asthmatic patients. Renal pain, hematuria, and urinary distress have all been reported in asthmatic patients and those

with allergic phenomena. In 1922, Duke described bladder symptoms which were relieved by elimination from the diet of certain foods to which the patient was allergic. He also showed that these symptoms could be relieved by administration of adrenalin. Blaustein in 1926 described a man with a hereditary background of angioneurotic edema who was allergic to goat's milk. During bouts of edema, after taking goat's milk, he had burning and pain at the meatus, aching in his loins, and anuria of eighteen hours' duration. He also had swelling of the meatus, scrotum, penis, and both parotid glands. Cystoscopy demonstrated marked swelling of the mucosa of the bladder and urethra. The anuria subsided spontaneously within eighteen hours. Bray in 1931 described patients in whom enuresis was treated with relief on the basis of allergy. Davis (1934) supported the theory of allergic reactions in the genitourinary tract but was skeptical about their importance. Miller and Uhle (1939) gave evidence for allergic reactions in the urinary tract in which renal and ureteral pains, hematuria, and purpura, hemoglobinuria, and vesical symptoms were attributable, in their opinions, to anaphylaxis. On the other hand, it is well established that there are some patients who acquire sensitivity to the sulfonamides after prolonged administration of them either at one time or on several occasions. There is also adequate evidence to establish the fact that in patients who receive these drugs for the first time there is sensitivity to them and they must be discontinued. Fever, nausea, skin rashes, and marked degree of malaise are the common manifestations of intolerance for the drug.

In the perusal of this case report one should keep in mind the following facts: Sulfadiazine was administered during the beginning of a very severe attack of asthma; the amount of the drug given was far below the amount which is commonly found to produce urinary obstruction from crystals; the patient had never taken any of the sulfonamides previously; and finally, there had never been urinary symptoms with any of the previous equally severe bouts of asthma.

It appears that the best possible explanation for this sequence of events is that anuria developed in the course of a severe acute asthmatic attack in a patient who happened to be sensitive to a sulfonamide drug, although she had never taken it previously. It is interesting to surmise whether she would have tolerated the drug in the absence of an attack of asthma.

## BOOK REVIEW

### NEW NATIONAL FORMULARY VIII NOW AVAILABLE

The Council of the American Pharmaceutical Association is pleased to announce that the new, completely revised and enlarged National Formulary was generally available on and after December 15, 1946. This edition, the eighth published by the American Pharmaceutical Association since 1888, provides official specifications for many widely used drugs not pre-

viously included in either the U. S. Pharmacopoeia or the National Formulary. Copies of the new edition may be obtained from the Mack Publishing Company, Twentieth and Northampton Streets, Easton, Pennsylvania, at \$7.50 per copy.

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# *The JOURNAL of the* **TENNESSEE** *STATE MEDICAL ASSOCIATION*

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## SECOND ANNUAL CONFERENCE ON RURAL HEALTH

On February 7, 8, 1947, about three hundred persons met in Chicago to discuss rural health problems. A full report of all the speeches and the recommendations of the Committees will be published in the *Journal of the American Medical Association*. We publish here the address of Dr. F. S. Crockett, in which the problem is stated, and the diagnosis of the condition as given by Dr. H. H. Shoulders.

F. S. CROCKETT, M.D., Lafayette, Indiana\*

### THE PROBLEM

We who have sponsored this meeting are grateful to you who have made the long trip from your homes to help us.

We doctors and farmers are trying to improve, not only rural medical service, but also rural health.

Rural health embraces everything that will promote better living conditions, better living standards, and better medical service.

We doctors can give good medical service wherever the conditions make it possible. We have called this conference in the hope that these conditions can be defined and made available and clear to everyone.

This conference is not a doctor's meeting. It is an occasion where everyone interested in the problem of rural health has been invited to participate in the studies and discussions. This morning will be devoted to prepared statements covering some of the subjects selected for committee study this afternoon.

It was not advisable to try to cover all important features of rural health at this time, but it is hoped that future conferences may afford this opportunity. The broad field of public health was not placed on our agenda and is an example of what I mean,

but public health touches every problem we are considering. For this reason we have invited a number of those who know a great deal about public health as well as others with special knowledge of rural problems who, we hope, will present their views before the various committees this afternoon. The six problems selected for our study committees seem very important at this time and deal with the ways and means of providing medical care. It is our hope that your deliberations will advance their solution.

We may here reach decisions based upon our experience and wisdom and embodying the fundamental principles that govern the solution of each problem. To make our labors really fruitful, the farm groups represented here must initiate in each county where they have a chapter, the activity that will obtain, through community action, the results desired. But it is at this community level where, many times, it is most difficult to create an active interest in health measures that will carry through to actual accomplishment.

An adequate health program is possible for any community. Our problem is not only to point the way, but supply the proof that its benefits in individual health and happiness are worth many times the cost in effort and money.

\*Chairman, A. M. A. Committee on Rural Health. Read before the Second Annual Conference on Rural Health.



Other conferences have been held covering this general topic of rural health. They have been both regional and national in scope. I have read a number of the reports covering their discussions and decisions, and I have been impressed by the earnestness and zeal with which various methods for achieving this end have been promoted.

We doctors are strongly of the opinion that the best plan is one that helps the individual and his community to help themselves. It will be slower. It will take longer, since the individual must be convinced, must be educated to value what he is obtaining; but when it is all done, when better rural health is in evidence through the individual's own efforts, there is less likelihood of his returning willingly to lower standards of living. He will also have the advantage of having learned how to do it for himself.

If we can sell the idea, the value of human well-being, so that people want it so much that they are willing to pay for it, are willing, if need be, to spend their money for health for themselves and their families, money they would like to spend for a radio, a car, or some other luxury item, then we have really made progress in health education. This is a true test by which we may gauge the sincerity of demand for better community health.

There are farm areas in many states where the people do not earn enough to pay for good health measures. They form a problem different from the rest of us only in the economic phase. Some form of outside help is needed, but, whatever is done, the principle of self-help should be emphasized.

The medical profession as represented by the American Medical Association is deeply concerned with the problem of rural health. As evidence of our interest we have created a Bureau of Information where, with the cooperation of county medical societies, localities needing doctors are listed and kept on file. Many returning medical officers have been assisted in finding locations in rural communities.

Rural health is only part of a nation-wide health problem. Each locality has its own

peculiar needs. It must be solved where the need exists. It cannot be solved by the doctors alone. It cannot be achieved by any minority group working alone, be they farmer, chamber of commerce, church, or other civic interest. But rural and community health is possible if they work together. An adequate health program is possible for any community through their united efforts.

## THE DIAGNOSIS

BY H. H. SHOULDERS, M.D.

*President, American Medical Association*  
Mr. Chairman, Members of the Conference:

It is not necessary, I am sure, for me to emphasize again the interest which the medical profession has in the problems with which this Conference is concerned. The interest of the medical profession has been expressed by the leadership of organized medicine in both words and deeds at both the national and local levels. This Conference under the sponsorship of Dr. Crockett and his committee is an expression of that interest on the part of the American Medical Association.

My individual interest arises also from the fact that I was born and reared on a farm. I have owned and operated two farms about thirty years. I am a paying member of the Farm Bureau Federation. My contact with farm life and farm people and with rural problems are frequent and I might say, intimate. As a professional man and as an officer in the state medical association for many years I have observed the gradual development of this problem over a long period of years.

It seems to me we are all agreed on the diagnosis of the condition present. We are agreed that it is a case of maladjustment. Now that is a diagnosis made with increasing frequency in individual patients these days—men, women and children. We doctors have the laudable habit of trying to find out the cause of maladies regardless of their character. Our plan of treatment and management is far more intelligent and fruitful if we have an understanding of the cause of an illness. We, of course, recognize as you recognize that in the case of maladjustment no one single cause of the

condition can be found because as a rule, no single cause exists. There are many causes or factors which play a part in bringing about the state of maladjustment in individuals and in the condition with which we are concerned today.

Obviously it is not a specific disease for which a specific remedy is available, a remedy which could be administered with assurances of a certain and speedy cure. It seems to me it would be appropriate for us to think for a moment and to mention a few of the causes, which have contributed to the state of maladjustment in medical service. I will add also that all I can hope to do in this Conference is to contribute a few thoughts to the thinking that is going on out loud and in silence. I certainly do not hope to give you a specific remedy for the simple reason that no such remedy exists. It is a situation which must be dealt with symptomatically. Many different means may be required in the management of this situation. At one time it may require sedation and another time it may require stimulation and so on.

One of the causes of our problem is illustrated by a story I heard from a reliable source some time ago. It is about a country doctor who was located at a country cross-roads in one of the states in the middle west. He was happy there and busy, but the roads over which he traveled on horseback or buggy became paved roads. The farmers bought cars and so did he. In a short while he was not busy. He discovered that his patients were going to the town a few miles away for their medical care. He then posted notice on his door that he was going to town. The people in the community made a loud protest. His reply to their protest was that many of them were going to town for medical care since the roads have been improved and that they were calling him for service only at night or in emergencies or when the snow was too deep for the town doctor to drive out and this fact they could not deny. He did move to town and the people of that community became his patients again and he served them from the town.

This story could be repeated times without number and this is one of the causes of the maladjustment we have. It is a cause also of the sense of maladjustment where no serious maladjustment exists, for the simple reason that the convenience of medical care of whatever character it may be, receives more emphasis in the minds of some people than the efficiency of medical care.

Another factor of great importance is the progress that has been made by science and invention in all lines. The whole pattern of rural life has changed and the whole pattern of medical care has changed also due to science and invention.

The farmer plows his fields by machinery; many crops are harvested by machinery. The hay is baled by machinery, often by a pick-up baler. His live stock are loaded on a truck at the farm and carried to market. He no longer travels on horseback or buggy over muddy roads. He travels by automobile over paved roads. A trip to the county seat a few years ago was a full day trip. Today it is a trip of a few minutes. His children are carried to school by a bus, frequently they are carried many miles to a consolidated high school. The little red school house with one teacher has disappeared from many communities. The farmer's wife goes to town for readymade clothing and maybe gets a hairdo. The farmer very often has a locker in town where meat is frozen and kept and stored. There is also refrigeration in the home. The whole family goes to town to a movie. Yes, the whole pattern of rural life has changed and the pattern of rural medical care has changed.

The country doctor went on horseback or buggy. He often raised the feed for his horse. He carried most of his equipment with him. He was a good fellow, devoted, kind and generous, and, I say, capable. I would not detract from his memory. I have respect, yes, reverence, for his memory. He was near the people and very successful. The sense of nearness was satisfying. They measured distance in miles then and not in time. But in all of this, I must not forget, and you must not forget that the country doctor of whom I speak could not prevent or

cure typhoid fever. No, he visited the case daily for a period of six to eight weeks and the mortality was high in spite of all he could do. He could not prevent or cure diphtheria. He had a fracture case occasionally and he set fractures of arms and legs without the aid of an X-ray. He got many bad results, but was not blamed for it. He did the best he could. Today he would be sued for malpractice if he gave the same treatment with the same results, in all the conditions I have mentioned. The people themselves would not stand for it. Today the doctor cannot carry all of his equipment with him. The diagnosis of a case may involve many laboratory tests. He, too, travels by automobile and he can reach a point ten miles from his office in less time than he could travel two miles on a country road. At that time an occasional complicated case of labor was sent to the hospital. Today it is the rule for normal cases to go to the hospital.

Many years ago many doctors in towns over the country built their own hospitals, equipped and operated them as private institutions. They did two jobs, delivered medical care and hospital care both. Many communities were slow to develop a sense of civic duty. They were not quick to develop facilities for their own interest and care. I could name many small institutions that have closed in the last ten to fifteen years.

The pattern of medical practice has changed in another important way. The diseases that required most of the time and interest of the rural practitioner many years ago have disappeared. You rarely see a case of typhoid fever now, but, on the other hand, fractured arms, legs and backs from automobile accidents occur with increasing frequency. I noticed in the paper a few days ago there were 100 000 deaths from auto accidents last year, to say nothing of the millions who were injured but survived. In addition to this, many diseases that were rarely ever recognized and treated at all in those years are today recognized and treated effectively though the diagnosis and treatment involves the use of many fa-

cilities and superior treatment on the part of the doctor.

So the location of a doctor at every cross-road in this country would not, in my opinion, solve the problem of efficient rural medical care. It is a good, well-trained doctor, plus equipment and plus facilities reasonably accessible under modern methods of transportation which will make this care available. We must not allow our sense of convenience and our desire for convenience to impair our appreciation of efficiency.

From my discussion of this problem with rural people and with their leaders I have formed the opinion that the thinking of many people on this question is colored very frequently by their memories of what used to be. They remember, as I do, the devoted attention of the old country doctor and the fact that he was near at hand. They remember the convenience of the medical care and we have forgotten the matter of efficiency.

This fact was impressed on me some months ago as a result of a conversation with a man I regard as a great farm leader, a man many of you know, Mr. J. Frank Porter, who was president of the Tennessee Farm Bureau until a short time ago. He and I were discussing this problem and he remarked with great emphasis that the town of Williamsport, Tennessee, was in urgent need of a doctor and he gave apparently logical reasons for the statement. They are that once three doctors were there. One moved away, one died and the remaining doctor was getting old and feeble. Mr. Porter lives on a fine farm near the village of Williamsport. This town has a population of one hundred and twelve people. It is surrounded by a thickly settled community in one of the best farming sections of middle Tennessee, and in one of the best counties in Tennessee, Maury County. It is just twelve miles from Columbia, the county seat, which is a town with more than ten thousand population. There are many fine doctors in the town and a good hospital, and a full time health unit. Mr. Porter has an office in the town of Columbia. A fine paved road connects the two towns and he covers the distance between them in twenty min-



utes traveling at a moderate rate of speed. There, of course, are no modern facilities for medical care at Williamsport.

I think Mr. Porter gave a very natural and laudable expression of a community interest and a personal interest, but I don't doubt that his thinking was colored to some extent, at least, by the convenience and satisfaction of having a country doctor near at hand even though he patronized the doctors in Columbia and in Nashville when the occasion arose.

This problem was created gradually over the years. The change is the result of time. It is the result of progress.

Another factor to be considered, is that patients, even seriously ill patients, can be moved long distances with speed and comfort and receive better care at the end of their journey than they could have received at home. Modern inventions have produced modes of patient transport that are efficient, speedy and comfortable. The location of a country doctor at Williamsport would not, in my opinion, solve the medical problem of Williamsport. It would satisfy a sense of need, but it will not supply a complete need regardless of the doctors' individual capabilities.

I think we should mention also the matter of preventive services. These services are not equally available to all the people. There is an equal amount of maldistribution of these services notwithstanding the fact that public health departments are all administered by government agencies. This maladjustment is easy to explain. The policies that have been followed in the allocation of federal and state funds for aid in the operation of health units have been made on the basis of *fund matching* and not on the basis of need. Whether this policy is due to legislation or departmental regulation, does not matter. That is the reason. As a result of it poor counties which cannot raise taxes in an amount sufficient even to support their schools, much less a full time health unit, do not get aid unless they match the fund. Rich counties which do not need aid, of course match the fund and get aid. I know many counties which had full time health service long be-

fore they received any aid from the state or federal government, which now receive aid while the poorest county does not receive it. I dare to make the assertion that had these millions of dollars that have been appropriated and spent had been *allocated on the basis of need*, there would not be a county in the United States without full time preventive services, because the poor counties would get aid and the rich counties would provide their own service.

This whole idea of allocation of these funds was begun for the purpose of demonstrating to people their benefits and with the idea that the aid could be withdrawn once an effective demonstration had been conducted. Mind you, I do not recommend the abandonment of the full time health unit, but I must urge the abandonment of a policy which governs the allocation of funds. At frequent intervals we see reference made to the approximately twelve hundred thinly populated poor counties without full time health service and this fact is cited as a reason for more appropriations, when it is rather a reason for the alteration of a policy.

I don't know of a problem with which this country is confronted which requires more clear-headed thinking than this problem of rural medical care. We doctors are all aware of the fact that in such situations many theorists rise up to give opinions which they are pleased to classify as expert opinions. Most of these opinions are in about this form—"Give me, or us, the power to tax and the power to spend, and the power to regulate, and direct affairs and I, or we, will solve your problem." Such a proposal is not only not a solution, it is repugnant to every full-blooded American. There are other and more recent proposals, one in the form of a bill, the Hill-Burton bill, which, it seems to me, is aimed at the extension of aid where the need for aid exists and without the injection of regulatory powers.

There was another proposal also which follows this same general idea of extending aid on the basis of need. Such a bill was presented by Senator Taft last year. We doctors are aware also that all sorts of

quack remedies are proposed by quack doctors of sociology and economics, but all these proposals embody powers which would curb if not completely destroy the freedom of, not only the profession, but of the people.

I wish to make this further observation; that the two groups of people who, in my opinion, should work out the treatment of this maladjustment are at the conference table. They are the representatives of the medical profession and representatives of rural people. From this Conference then should grow and develop a type of consideration and cooperation which will, in time, determine what the local needs are, their character and the amount. The matter of voluntary prepayment medical service plans, in my opinion, can serve a vital function in the financing of the major costs of medical care and they can accomplish it without hardship on individuals and with

the complete preservation of individual independence and without destroying, or even impairing the vital relationship between patients and doctors. The voluntary hospital prepayment plan can accomplish the same thing.

I, therefore, view this situation with hope and confidence. We have lived through a war period where the problem was accentuated by war and sufficient time has not elapsed for complete readjustment. The problem calls for clear thinking, it calls for united effort on the part of the medical profession and rural people. Third parties must not be permitted to interpose themselves between these two groups with their quack remedies. We must progress on a sound basis and in the American way and in an atmosphere of freedom and with the determined purpose of preserving that freedom.

DON'T MISS

THE 112TH ANNUAL MEETING

TENNESSEE STATE MEDICAL ASSOCIATION

APRIL 8, 9, 10, 1947

HOTEL PEABODY ● MEMPHIS

## AGREEMENT BETWEEN THE VETERANS ADMINISTRATION AND THE TENNESSEE STATE MEDICAL ASSOCIATION FOR THE MEDICAL CARE OF VETERANS WITH SERVICE CONNECTED DISABILITIES

1. It is the purpose of the Tennessee State Medical Association to collaborate with the Veterans Administration in a manner which will provide the best possible medical care for veterans residing in the State of Tennessee.

2. The Tennessee State Medical Association will request all of its members to participate in a state-wide program whereby physicians in private practice will render medical services (examinations, treatments, and counsel) in such cases as may be authorized by the Veterans Administration.

3. The Tennessee State Medical Association will submit to the Veterans Administration a list of members who desire to provide services for eligible veterans in home communities of such veterans.

4. The physicians so listed may be appointed as fee-designated physicians of the Veterans Administration.

5. Such list may be augmented from time to time as additional physicians indicate a desire to participate in the program.

6. By notice in writing, a physician may at any time request that his name shall be removed from the list of fee-designated physicians.

7. Fees for medical services in authorized cases shall be paid by the Veterans Administration to the physician rendering the service in accordance with the fee schedule which is attached hereto and made a part of this agreement. The Tennessee State Medical Association warrants that the rates charged herein are not in excess of the rates charged other persons, who are not Veterans Administration beneficiaries, for the same service. It is understood that unusually involved cases and services not scheduled will be subject to review by the Tennessee State Medical Association and for recommendation to the Veterans Administration as to the appropriate fee.

8. The Tennessee State Medical Association, through its component county medical societies, will assist the Veterans Administration in establishing for examinations

and treatments a list of competent specialists.

9. Lists submitted by the Tennessee State Medical Association will be broken down by counties or districts in order that the veteran for whom services are authorized may select a physician practicing in his home community, except for examinations for pension rating purposes.

10. The Veterans Administration will handle administrative and clerical details in connection with the authorization of examination or treatments and the maintenance of records; and will arrange for transportation of the veteran if necessary.

11. When authorizing examination or treatment, the Veterans Administration will furnish to the veterans proof of such authorization and a list of fee-designated physicians in the county or district in which the veteran is located in order that he may select his own physician for the services authorized. In case of special examination the Veterans Administration reserves the right to designate the physician.

12. The Veterans Administration will review reports of examinations and services to determine their adequacy. No fees will be paid by the Veterans Administration for reports which are not acceptable to the Veterans Administration nor for services rendered in unauthorized cases.

13. The Tennessee State Medical Association will establish one or more boards of review composed of physicians. It shall be the duty of such board to review reports which are deemed by the Veterans Administration to be inadequate, or which do not meet the requirements of the Veterans Administration; to recommend, at its discretion, the disqualification of any physician from further work with the Veterans Administration whose work is found by the board to be incomplete or unsatisfactory; to advise and assist the Veterans Administration on other matters within the scope of this program.

14. The Tennessee State Medical Association does not propose to make any charge



for any services rendered to the Veterans Administration under this agreement.

November 1, 1946. Effective date of this agreement.

Signed on behalf of the Tennessee State Medical Association by C. M. Hamilton, M.D., President, and Daugh W. Smith, M.D., Chairman of Board.

Signed on behalf of the Veterans Administration by R. C. Kidd, Director, Supply Service.

#### FEE SCHEDULE FOR OUTPATIENT SERVICE (See Section 7)

##### *Clinical Laboratory Tests*

1. Total and differential blood count, including colorimetric hemoglobin estimation	\$ 5.00
2. Blood smear for malaria	2.00
3. Urinalysis, routine chemical and microscopic	2.00
4. Blood Wassermann (complement fixation)	4.00
5. Spinal fluid Wassermann (complement fixation)	4.00
6. Blood Kahn (precipitation)	3.00
7. Spinal fluid Kahn (precipitation)	3.00
8. Chemical examination of blood complete, including creatinin, urea, dextrose, nitrogen (or N. P. N. and uric acid)	15.00
9. Sputum examination for tuberculosis (plain smear)	3.00
10. Determination of basal metabolic rate	5.00
11. Feces examination	5.00

##### *Services by Nonspecialists*

12. Examination to determine need of hospitalization	\$ 3.00
13. Complete general routine physical examination	7.50
14. Office visit with treatment	3.00
15. Day visit to home or hospital within city limits	4.00
16. Night visit to home or hospital (7:00 P.M.-7:00 A.M.) within city limits	6.00
17. Charge for mileage one way for day or night visit outside city limits in addition to appropriate fee	mile .75

##### *Examination by Specialists*

18. General surgical	\$ 7.50
19. Specific surgical	5.00
20. Orthopedic	7.50
21. Physical examination of the heart	7.50
22. Complete examination of the heart, including electrocardiogram	15.00

23. Electrocardiogram with interpretation	10.00
24. Physical examination of lungs	5.00
25. X-ray of lungs, flat plate	10.00
26. X-ray of lungs, stereoscopic	12.50
27. Gastrointestinal, including barium meal, X-ray, and fluoroscopy	35.00
28. Colon, fluoroscopic examination of, including barium enema and plate	15.00
29. Dermatological	5.00
30. Allergy investigation (protein sensitization tests), including complete examination and report—minimum of 25 tests	25.00
31. Genitourinary examination without cystoscopy	5.00
32. Gynecological	5.00
33. Proctological	5.00
34. Psychiatric examination, complete	10.00
35. Neurological examination, complete	10.00
36. Neuropsychiatric examination, complete	15.00
37. Examination of ears, nose, and throat	5.00
38. Special ear examination, including audiometric test with chart	10.00
39. Special ear examination, including caloric or Barany test with report	10.00
40. Examination of eyes (to include either a copy of the prescription ordered or the retinoscopic correction of the refractive error, the fundus and field findings—the latter by chart in all cases of optic atrophy)	10.00
41. Examination of eyes with refraction, if mydriatic is used (to include either a copy of the prescription ordered or the retinoscopic correction of the refractive error, the fundus and field findings—the latter by chart in all cases of optic atrophy)	12.50
42. Examination by internist to determine diagnosis, not to include items already covered	15.00

##### *Treatment by Specialists*

43. Dermatological, first visit	\$ 5.00
44. Dermatological, each subsequent visit	3.00
45. Ear, nose, and throat, first visit	5.00
46. Ear, nose, and throat, each subsequent visit	3.00
47. Ophthalmological, first visit	5.00
48. Ophthalmological each subsequent visit	3.00
49. Psychiatric treatment (psychotherapeutic conference), session of at least fifty minutes	10.00
50. Psychiatric treatment (psychotherapeutic conference), session of twenty-five minutes or less	5.00
51. Neurological treatment (treatment is understood to be the usual follow-up care and observation after diagnosis has been made at original neurological examination)	5.00

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## THE TREATMENT OF BENIGN AND MALIGNANT NEOPLASMS OF THE SKIN\*

CHARLES G. ANDREWS, M.D., Memphis

It is apparent that only the cutaneous lesions seen frequently in general practice can be discussed briefly in a paper of this length. Cancer of the skin, exposed and accessible as the lesions are, should offer the highest percentage of cures of any malignancies. This is true in our experience, as most patients seek relief before extensive growth or metastasis has taken place. Only about thirty per cent of cutaneous cancers occur in women. The affection is more common in temperate zones than in the tropics and it is relatively rare in the Negro.

It might be well to mention the most common precancerous lesions or forerunners of malignancies. Many believe that the most important are the seborrheic keratoses. These lesions are a result of trauma, commonly in the form of actinic irritation on a skin which already has been rendered susceptible by the presence of long-continued dry seborrhea. The lesions are most common in elderly subjects; slightly raised, brownish in color, and the surface is generally smooth. They usually do not require treatment. If the history shows that growth is taking place fairly rapidly, the lesions should be destroyed—preferably by electrodesiccation. X-ray and radium, unless given in lethal doses, are not safe or efficacious.

It might be well to mention that the sebaceous cyst is not always the benign harmless tumor that it was once thought to be. Reports are being accumulated to show that a considerable number of malignancies originate in long-standing sebaceous cysts. About six per cent undergo malignant changes. It is obvious then that all such cysts removed should have the benefit of a careful pathological examination.

Other precancerous dermatoses which occur less frequently are cicatrix, occupational keratosis, kraurosis vulvae, leukoplakia, and long-standing ulcers. Leuko-

plakia is a frequent forerunner of malignancy, but as it occurs on mucous membrane surfaces only we will not consider it here.

We see a small number of malignancies each year developing in old scars from burns or in areas which have been overexposed to X-ray. These lesions are difficult to treat and usually require extensive radical surgery.

A simple list of the cutaneous malignancies is as follows:

1. Malignant melanoma.
2. Basal-cell epithelioma.
3. Squamous-cell epithelioma.
4. Paget's disease of the nipple.
5. Sarcoma.

As Paget's disease of the nipple rightly belongs to the breast cancers and sarcoma of the skin is quite rare, they will not be included in this discussion.

Other frequent precursors of skin cancer are the senile keratosis; the etiology is unknown, but senile degeneration of the skin may be a causative factor. Excessive exposure to ultraviolet rays and low actinic toleration may also play a role. They are irregular in contour, barely elevated, consisting of a horny layer or scale which is firmly adherent—usually of a gray color. The patient speaks of it peeling off, but recurrence is the rule. It gives rise to both the basal-cell and squamous-cell type of epithelioma.

Again, the most prominent or questionable keratoses are best treated by electrodesiccation. Occasionally a biopsy before treatment is indicated.

The nevi or common birthmarks may give rise to neoplasms of various types and various degrees of malignancy.

Probably the most commonly observed birthmark is the hemangioma. The majority of our cases are composed of infants or young children brought in by anxious mothers with these unsightly lesions about the face, neck, or head. Generally a history is given of a small lesion which began to

\*Read before the Tennessee State Medical Association, Knoxville, April 9, 10, 11, 1946.

enlarge or spread rapidly. Clinically, three types are described: (1) the superficial or port-wine type; (2) the raised type or angioma cavernosum; and (3) the so-called senile angioma. The superficial type is easily and successfully treated with topical radium or X-ray either in the form of a plaque or needles. Small doses repeated at six-to-eight-week intervals are usually sufficient. It has been observed that once the obliterative process is started, it continues on for months until the dilated blood vessels are completely sclerosed.

The raised type usually requires interstitial radium and our preference is the two milligram needles placed at intervals to cover a square centimeter. We have also treated a small group of cases satisfactorily by the injection of a sclerosing paste.

The type of nevus which concern us most is the blue-black mole or melanoma.

The term now is generally used to designate all malignant tumors derived from melanin-producing cells or cells capable of producing melanin—namely, melanoblasts. The precursory lesions which may change to melanomas are pigmented nevi or moles.

It is important to remember that non-pigmented melanoma occurs rarely and is difficult to distinguish from a benign mole. This variant of the true melanoma is quite sensitive to radiation therapy and early diagnosis and treatment may bring about a larger percentage of cures.

As a rule, melanoma is congenital. The pigmented moles are found more frequently than is generally supposed. A survey of 300 persons showed that an average of twenty pigmented moles were found to a person. Therefore, it would be unwise to attempt removal of all pigmented moles and there should be a common sense rule developed to guide us; such rule would be—leave the brown moles alone and be concerned only with those which contain black pigment.

Most melanomas lie dormant for many years before growth and dissemination begin. A history of injury to the lesions such as a scratch, laceration or infection is usually obtained. Continued irritation such as a shoe rubbing a foot lesion, pinching by

a collar or belt may be sufficient to precipitate the growth factor.

A routine microscopic study of apparently benign moles removed during the course of these operations has shown many to possess malignant characteristics. Many quiescent melanomas are therefore malignant, but the lawless growth has not been touched off by some type of injury.

It is now generally agreed that it is extremely inadvisable to use electrodesiccation in the treatment of melanomas, the main objection being that it is impossible to know exactly when all the cells of the tumor are coagulated; too frequently a portion of the tumor is left uncoagulated. Thus it is possible to supply the traumatic factor changing a previously quiescent tumor into a rapidly growing malignant one.

The preferred treatment of a quiescent melanoma is a simple scalpel excision, being cautious in going wide of the tumor in every direction—usually going down to the fascia. One should be careful not to touch the lesion with forceps or knife. The bottom of the excised mass should be wider than its surface.

#### MALIGNANT MELANOMA

Having once begun to grow, melanoma takes one or more of three courses. First, it may grow locally, invading the skin and subcutaneous tissues. Second, it may be carried by the blood stream to the liver, lungs, brains, or spine. Third, metastasis may take place by way of the lymphatic channels to the nearest regional lymph nodes. It is in this last group that most of our cures come.

The treatment of malignant melanoma once it has left its original site has been very discouraging. The majority of the tumors are extremely radio-resistant. Even in advanced cases where palliation was desired irradiation has usually failed. Radical surgical treatment both locally and of the regional lymphatic glands appears to offer the best chance of removal. More and earlier surgery should be employed. It has been our custom for some years to combine interstitial radium with radical surgery, but the results are still disappointing.



### BASAL-CELL EPITHELIOMA

Basal-cell epithelioma—sometimes termed rodent ulcer—rarely attacks the mucosa primarily. Histopathology: The typical basal-cell epithelioma starts as a downward budding from a very small group of basal cells of the epidermis or a horizontal budding from similar cells. The cells are columnar, stain deeply, have large oval nuclei, and relatively little protoplasm.

The lesion may exist for many years with but slight change or it may evolve slowly and steadily over a long period of time. The untreated or more malignant tumors may extend rapidly and ulcerate with invasion of cartilage and bone and destruction of important parts such as the eyelids, ears, nose, or lips.

The principal diagnostic features of basal-cell epithelioma in general are: Chronicity, mother-of-pearl nodules, rolled edges, ulceration, absence of induration and occurrence in adult life. As the edge of growth advances cicatrization takes place in the center with scattered, crusted, or nodular areas.

A small number of the lesions soon become deeply invasive after being at first superficial. They involve the deeper structures, ulceration occurs, and when first seen extensive radical treatment holds the only hope of much benefit.

Fortunately the basal-cell epithelioma is quite radio-sensitive. Our preference in treating small early lesions is the subcutaneous implantation of gold radon seeds. These implants are delivered to be used at a certain time to contain one millicurie of radium emanation. As approximately fifty per cent of the emanation is lost during the first sixty hours the time factor is important. (A chart accompanies the radons giving the exact strength of the emanation in percentage for the succeeding hours and days.)

The radons can usually be inserted in the office under local anesthesia; this eliminates the necessity of hospitalization and loss of time from work.

Some of the lesions can be treated satisfactorily with the roentgen ray. Certain-

ly it is a sheet anchor in the treatment of old well-advanced growths about the face whose inaccessible location makes the use of interstitial radium extremely difficult. Lesions about the face which are resistant to irradiation—occasionally from inadequate previous treatment or recurrences under deep cicatrices—require close cooperation with the plastic surgeon. In this connection it might be stated that we are more and more disregarding the potential cosmetic effect, as we believe that some cases lose their best chance of cure because of an attempt to preserve normal tissue outlines.

We feel that the majority of fairly large accessible growths are best treated with interstitial radium—and for this purpose the one or two milligram needle is employed. A full lethal dose is administered. A marked reaction occurs in eight to twelve days which consists of an intense inflammatory zone, weeping of the growth and formation of a heavy crust. This crust usually drops off in six to eight weeks, exposing a firm elastic scar.

### SQUAMOUS-CELL EPITHELIOMA

The final type of skin cancer, the squamous-cell epithelioma, may occur primarily or secondarily in the skin and mucous membrane. It is derived from the squamous cells of the epidermis. Evolution is often rapid; metastasis through the lymph channels may occur at any time, leading to a fatal termination. The prognosis, therefore, must be guarded.

The lesion usually begins as a nodule or as a small well-defined area of infiltration. Ulceration commonly occurs early. The affection most frequently involves the mouth, the tongue, or the lips. It occurs occasionally on the mucous membrane of the penis, vulva, eyelids, and nose. The most common location for lesions primary in the skin are the scalp, ear, and dorsal surfaces of the hands. A few cases develop large papillomatous or fungating growths—especially in this type seen on the lower lip. Carcinoma of the penis is practically always of the squamous-cell type. It occurs mostly in those who were not circumcised in infancy. Wolbarst states that there is no

authentic case of penile cancer on record in a Jew circumcised in infancy.

Clinically, squamous-cell epithelioma can often be differentiated from the basal-cell type by this rapidity of growth—primary involvement of mucous membrane, development in a precancerous lesion, such as leukoplakia, scar or keratosis, lymph node involvement, and induration. Usually absent are mother-of-pearl nodules and a rolled edge.

The treatment of squamous-cell epithelioma in general follows the principles described in the treatment of basal-cell epithelioma with the exception, however, that the former is not quite as radio-sensitive. Therefore, excision with the scalpel or surgical diathermy must be employed more often and as regional lymph glands are involved all too frequently, they offer a problem, the solution of which is still a matter of controversy. At present we are relying on heavy X-ray therapy and limiting surgical excision to solitary affected glands. Even then the results are disappointing. As exemplified by a recent case an elderly man with a squamous-cell epithelioma of the upper lip with a solitary cervical gland has been treated elsewhere insufficiently with X-ray. The lesion on the lip was small, but still present. Interstitial radium was used on the original growth and the solitary gland was excised. When the patient was seen eight weeks later, the lesion on the lip had healed; but the metastasis in the neck had reappeared and was growing with great rapidity. An anatomical study of the numerous lymph glands of the neck and their distribution certainly should discourage one from doing extensive radical surgery in the hope of extirpating all involved lymph glands.

#### DISCUSSION

DR. C. M. HAMILTON (Nashville): The essayist has presented an interesting and instructive paper on the management of cutaneous neoplasms. His remarks in regard to keratoses as precancerous lesions should be remembered. The senile type seems to be more dangerous than the seborrheal variety. They occur on the exposed surfaces and in people with thin translucent skins and are probably influenced by exposure to the elements. They are easily destroyed by electrocoagulation or

cautery, but it should be emphasized that complete destruction is necessary.

Many cases of malignancy can be avoided by the proper management of naevi and other congenital skin lesions. Moles that are being irritated should be removed either by electrodesiccation or by cautery. Bluish or deeply pigmented moles should receive attention early in order to avoid development of melanotic tumors. There is no reason why they may not be removed by electrocoagulation or by cautery, provided the entire thickness of the skin is included.

Results in port-wine hemangiomas, with any kind of irradiation therapy, has been unsatisfactory. Most of them have a mottled appearance and look worse after treatment than before. An artistic application of Cover-mark will improve the cosmetic appearance. Small, circumscribed stains can be removed by carbon dioxide snow fairly satisfactorily. The hypertrophic type of hemangioma may be destroyed by electrocoagulation if located where a scar is not objectionable.

The use of radium has practically been discontinued in the treatment of cavernous and hypertrophic hemangiomas, since good results can be obtained with filtered X-ray therapy. It is easier to protect the surrounding tissue and the treatment can be given in a much shorter time.

The remarks on treatment of malignant melanoma are very discouraging and are in accord with experiences of other observers. Personal experience has shown that practically all of these cases end fatally.

Epitheliomas frequently occur in scars, especially in those resulting from burns. Unfortunately, most of these are rather resistant to treatment and require heroic measures. The use of palpation in examining skin lesions should be routine. Basal-cell epitheliomas do not appear any larger by palpation than by observation; on the other hand, squamous-cell epitheliomas seem much larger than they appear from visual examination.

Basal-cell epitheliomas can be treated successfully by any destructive measure. It has been our practice to treat them according to the cosmetic result desired. In lesions located where scars are not so objectionable, one of the simplest ways of treatment is to destroy the excrescence by electrocoagulation and to treat the base of the lesion with three to four thousand units of unfiltered X-ray therapy.

Squamous-cell cancers are more invasive and are usually best treated with fractional doses of filtered X-ray therapy. It is preferable to treat these patients daily for six to eight successive days, administering one thousand units per treatment. Good cosmetic results can be obtained in epidermoid carcinoma of the lower lip by this technique. This method can be employed in the treatment of basal-cell epitheliomas where the cosmetic appearance is a factor, but fewer treatments are essential. The essayist is correct in concluding that the management of the adjacent



glandular areas in carcinoma of the lip is a serious problem. There is some doubt as to the wisdom of routine neck dissection or prophylactic irradiation in every case of carcinoma of the lip. When to advise surgery or when to adopt conservative measures requires good judgment and places the physician in a very responsible position. In metastatic nodes excision and postoperative radiation therapy offer the best prognosis.

DR. A. H. LANCASTER (Knoxville): Mr. Chairman and Gentlemen: The discussion of benign and malignant neoplasms is always interesting to one who makes his bread and butter by treating such lesions.

In the discussion of benign neoplasms, I like to think of them in three groups: those neoplasms of the skin from which we do not expect to see malignancies develop; that group of benign neoplasms in which we see a low per cent of the malignant lesions of the skin develop; and the group of neoplasms of the skin in which we see a high percentage of malignancies develop. Some men have gone so far as to say that the third group of growths are malignant from the beginning just as much as a six-month-old boy will become a man if he is taken care of and encouraged to develop. When in doubt as to the type of lesion we are dealing with, I think it is well to take biopsies. The site of selection of the biopsy means a lot; it should be taken from the most active portion of the lesion. When we remove nevi and expect the pathologist to tell us whether or not we have removed every cell, we are asking too much of him because he does not do serial sections. I have seen lesions removed and specimens sent to two pathologists; one would report it malignant and the other would say it was benign. Both were correct in interpreting the tissue that they received and examined.

I like to classify the malignant growths of the skin as follows: those that are locally malignant, such as the basal cell; those that are generally malignant, such as the squamous-cell which metastasize through the lymphatics; and those that metastasize through the blood system, such as the melanoma. If we did serial sections on all basal cells, we would find twelve to fifteen per cent of those to be mixed tumors, and that is where we sometimes get into trouble by considering what we think is an epithelioma to be a truly basal cell; if we don't treat them, having in mind that it may be a mixed cell, we will be disappointed in our results. I think the malignant melanoma is incurable. The last American Medical Association meeting I attended had a very heated discussion between some very fine pathologists as to whether or not they can tell histologically the difference between a malignant and a benign melanoma under the microscope.

It does not make any difference whether you remove or destroy every malignant cell; if you do one of the two, you should cure the patient of that

particular malignancy. So take your choice—surgery, desiccation, radiation, or a combination. Radium and X-ray are not always good substitutes for poor surgery. In treating we should take into consideration the soil; for example, if you are sowing seed, you don't sow the same amount in all types of soil. Similarly, a malignancy of the lower part of the nose, a malignancy of the ear, or a malignancy of the forehead and the scalp should all be handled according to their location and not handled in the same manner that we would handle one of the soft tissues about the cheek.

The unpleasant part of this discussion is that of the hemangiomas. I think that we should never treat a port-wine nevus with X-ray or radium; it is absolutely contraindicated. The histological structure of a port-wine nevus consists of mature type of blood vessels and does not respond to radiation. I agree with Doctor Hamilton that in some the cautious use of carbon dioxide snow at times is beneficial. A cold quartz light will help some of these patients, but one will never make a reputation treating a port-wine nevus. In the cavernous type X-ray and radium are indicated. I think the radium gives better cosmetic results. Interstitial radiation, no, unless it is in the mouth or some similar location, because we do know that there is destruction of tissue for a small area around the implantation of radium emanation, and when that is done we get scarring and some telangiectasia with disfiguration.

DR. JOHN R. SMOOT (Knoxville): I would like to expand on one phase of treatment that was mentioned by Doctor Hamilton, and that is the contact X-ray.

I had the pleasure of working a while with a gentleman who had used this mode of treatment for about ten years, and by contact X-ray to the hemangioma, the plantar wart, the epithelioma of both types, the squamous cell, and the basal cell, we mean a cathode distance of anywhere from two to eight centimeters. Of course, you have to use the shockproof machine which was developed, I believe, by Schafer and Adams in Germany about 1929. They used it for treating carcinoma of the cervix.

Chaoul and Adams developed this further, and they reasoned that the amount of irradiation absorbed by the tissues was responsible for the biological effect, and this was not dependent upon the wave length or quality of irradiation.

The radiologists have improved their deep therapy by greater skin distance, increase in filtration, high voltage, and small areas of exposure and cross firing to get the deep effect of irradiation. It is exactly opposite to what we use in contact X-ray.

We found that the contact X-ray in lesions of the ear and nose and eyelid gave us excellent cosmetic effects. The irradiation comparison between radium and X-ray was one milligram of brass filter on the radium, the surface dosage was



100 per cent, at the one cubic centimeter depth twenty-nine per cent, and at two cubic centimeters 13.1 per cent. With the contact X-ray of fifty kilovolts with six centimeters distance, three milliamperes, the surface dose was 100 per cent, at the one cubic centimeter it was twenty-eight per cent, and at two cubic centimeters it was 11.4 per cent.

The biological effects of equal tissue doses of thirty kilovolts unfiltered X-ray and gamma radium rays were found by Holthusen to be identical.

So you see the comparison is very favorable, and the cosmetic effects, I think, you will find are likewise favorable.

I appreciated your paper very much, Doctor; it was very nice to listen to. (Applause.)

DR. HUGH CHANCE (Cumberland Gap): Mr. President and members of the association: I just want to call your attention to something I discovered accidentally a good many years ago in treating neglected or incompletely irradiated cancers about the face. You will find it very often about the nose. It has been irradiated considerably, but not cured.

I gave by mistake an overdose, and I got good results—the first time I had ever gotten it in an untreated case. Now if I find a case that has had a good many X-ray treatments with no improvement on top of a man's nose or on his cheek, the cancer getting steadily worse, I don't do it on the ear (I haven't had courage to), but on the nose or cheek, I give him 1,000 r's a day for eight days at 200 kilovolts and almost invariably I get results. That is in a case that has failed before by the ordinary methods.

Another thing I have observed in extensions into the neck is that they will come sometimes from those on the face, as Doctor Lancaster pointed out, because they are mixed. There are some squamous cells in the basal cell growths too. It is a very bad type. I don't know yet what to do with the neck in cancer of the lip and in squamous-cell cancers on the ear and face because if you do a block dissection you don't know whether you have the right glands or not. The right nodes that are still infected may still be there, and if you undertake to give enough X-rays to prevent that, you have to give an enormous dose, enough to damage the skin for all time.

So you are up against a proposition there. I have lately done nothing at all unless I found a node that I reasonably thought was involved. I don't give any preparatory treatment on the neck, and I don't advise any surgery there unless you find the gland. If that is the case, remove it, irra-

diate the place where it came from, and you have usually got it. (Applause.)

DR. G. TURNER HOWARD (Knoxville): Mr. Chairman and members of the association: I have enjoyed this paper very much and the discussion it has brought out.

There is one point I want to make. I believe melanotic sarcoma can be cured. I had the privilege of being at the Memorial Hospital in New York for some time and saw any number of ten and in some cases fifteen-year cures from melanotic sarcoma. I believe and they believe there that you have to treat these cases with surgery which should be vigorous and radical in nature. If you have a lesion on the extremity, a wide excision of that lesion should be done, followed by a block dissection of the regional nodes, which means a radical groin dissection in lesions of the leg. In the arm a radical axillary dissection must be done. In some cases a dissection of an area of skin leading to the regional nodes has been advocated because of the skin lymphatics which may cause extension.

In those cases of cancer of the lip and face with extension into the nodes of the neck, a radical neck dissection should be done, but the radical neck dissection should be done after the primary lesion has been healed. This is of prime importance. The original lesion must be healed first.

Thank you very much. (Applause.)

DR. CHARLES ANDREWS (closing): I certainly am greatly indebted to these gentlemen for their very excellent discussion. They have brought out many points which I did not have time to include in my paper.

The treatment of these lesions, after all, will depend to a certain extent on the skill of the physician who sees the patient and the equipment which he has available. As I think we will all agree now, it is the combination or the availability of the combination of these agents which have been mentioned. All of them are extremely valuable, which will eventually give us our best chance of results.

I was very interested in hearing Doctor Chance speak of his massive doses in the treatment of these lesions which are so resistant to treatment about the nose and ear. We see so many of them. I am indebted to him for bringing this out.

I recently heard Dr. George Pack of Chicago last month; his paper was entitled, "The Extension of Radical Surgery in the Treatment of Carcinoma," and he brought out just what the last discussor emphasized—that they extended their surgery, such as shoulder girdle amputations and hemipelvectomies, and apparently getting good results.

Thank you. (Applause.)

# THE JOURNAL

OF THE

TENNESSEE STATE MEDICAL ASSOCIATION

Devoted to the Interests of the Medical Profession of  
Tennessee

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W. M. HARDY, M.D., Editor and Secretary

MARCH 1947

## EDITORIAL

### MEMPHIS MEETING

#### *Program of One Hundred Twelfth Annual Meeting of the Tennessee State Medical Association*

Soon after this issue of the JOURNAL is mailed, each member of the Tennessee State Medical Association will receive a copy of the Official Program of the meeting to be held in Memphis, April 8, 9, 10, 1947.

A number of guest speakers have been selected because of their connection with organized medicine and their reputations in special lines of endeavor. In addition to this list of distinguished speakers, the Committee on Scientific Work has accepted papers from a number of the members of the Association.

Those appearing on the program are recorded below.

#### *Guest Speakers*

C. M. Hamilton, M.D., President, Tennessee State Medical Association, Nashville, "Distribution of Medical Care in Tennessee."

Abraham Levinson, M.D., Chicago, guest of the Academy of Pediatrics, "Diagnosis and Treatment of Meningitis" (slides).

George F. Lull, M.D., Secretary, General Manager, American Medical Association, Chicago.

Joseph G. Molner, M.D., National Foundation for Infantile Paralysis, "Epidemiology and Recent Developments in Poliomyelitis."

Mr. M. H. Petersen, National Physician Committee, Chicago.

William C. Porter, Col., M.C., guest of Postgraduate Committee, Fort Sam Houston, Texas, "Neuropsychiatry for the General Practitioner."

U. V. Portman, M.D., guest of the Tennessee Radiological Society, Cleveland, Ohio, "The Role of Surgery and Radiation Therapy for Cancer of the Breast."

Frank E. Smith, Ph.D., Director, Associated Medical Care Plans, Chicago, "A Doctor Enters the Insurance Field."

H. H. Shoulders, M.D., President, American Medical Association, Nashville, "Some Problems in the Field of Medical Economics."

Dudley C. Smith, M.D., Professor, Dermatology and Syphilology, University of Virginia, Charlottesville, Virginia, "Present-Day Management of Early Syphilis."

Olin West, M.D., President-Elect, American Medical Association, Nashville.

Fletcher D. Woodard, M.D., Professor, Otolaryngology, University of Virginia, Charlottesville, Virginia, "Recurrent Nerve Paralysis of the Larynx."

#### *Essayists*

Harwell Wilson, M.D., Memphis, "Treatment of Phlebothrombosis and Thrombophlebitis."

J. J. Killeffer, M.D., and Robert C. Robertson, M.D., Chattanooga, "Nonoperative Treatment of Acute Hematogenous Osteomyelitis—Preliminary Report."

Clarence Shaw, M.D., Chattanooga, "Ringlike Lesions of the Skin."

Charles R. Henry, M.D., Chattanooga, Memorial Address.

J. B. Naive, M.D., Knoxville, "The Most Advanced Phases in the Treatment and More Especially Diagnosis of Tuberculosis."

Herbert Acuff, M.D., Knoxville, "Newer Concepts of the Management of Peptic Ulcer."

B. M. Overholt, M.D., Knoxville, "The Management of Cardiac Emergencies."

L. W. Nabers, M.D., Morristown, "Plastic

Surgery of the Face, with Especial Emphasis on the Nasal Hump."

James A. Kirtley, Jr., M.D., Nashville, "Management of Arterial Emboli."

Cobb Pilcher, M.D., Nashville, "Surgical Treatment of Localized Epilepsy."

D. C. Seward, M.D., Nashville, "Clinical Aspects of the Rh Factor."

D. W. Smith, M.D., Nashville, "Carcinoma of the Rectum and Sigmoid."

Albert Weinstein, M.D., Nashville, "Diabetes Mellitus: Recent Changes in Concepts of Etiology and Treatment."

C. C. Trabue, M.D., Nashville, "Injuries of the Colon and the Closure of Colostomy."

Nicholas Gotten, M.D., and C. D. Hawks, M.D., Memphis, "Important Factors in the Diagnosis of Favorable Brain Tumors."

William D. Stinson, M.D., Memphis, "An Analysis of the Causes of Globus Hystericus."

George L. Livermore, M.D., Memphis, "The Why of Pus and Blood in the Urine."

John C. Ayres, M.D., Memphis, "The Fruitful Marriage."

J. E. Whiteleather, M.D., and J. A. Gardner, M.D., Memphis, "Pulmonary Edema Due to Excessive Intravenous Saline."

H. E. Atherton, M.D., Memphis, "Resuscitation of the Asphyxiated Newborn Infant."

*Program of Tennessee State Pediatric Society, April 7*

*Monday Morning*

8:00 Registration.

9:00-12:00 Clinics and Case Reports by the Memphis Group.

12:30 Luncheon, followed by the Business Meeting.

*Monday Afternoon*

2:00 Dr. Abraham Levinson of Chicago, "Neurologic Disturbances of the Newborn."

3:00 Dr. Alexis F. Hartman, "Treatment of Infantile Diarrhea."  
Business Session and Election of Officers.

*Monday Evening*

7:00 Banquet at Hotel Peabody.

*Program of Nineteenth Annual Meeting of the Woman's Auxiliary to the Tennessee State Medical Association, Memphis, Tennessee, April 8, 9, 10, 1947*

Headquarters, Peabody Hotel, Memphis  
Mrs. Harold B. Boyd, President

*Tuesday, April 8*

Registration 1:00 to 4:00 P.M., Peabody Hotel.

Preconvention Board Meeting and Dinner, 6:30 P.M., at University Center. Mrs. W. O. Baird presiding.

*Wednesday, April 9, 9:30 A.M.*

Regular Annual Meeting of the Woman's Auxiliary to the Tennessee State Medical Association, Mrs. W. O. Baird presiding.

Invocation—Rev. G. C. Brewer, pastor Jackson Avenue Church of Christ.

Roll Call and Minutes—Mrs. Carl Crutchfield, Secretary.

Address of Welcome—Mrs. L. L. Carter.

Response—Mrs. George W. Holcomb.

Presentation of General Chairman on Arrangements—Mrs. M. W. Holehan.

Presentation of Advisory Council.

Dr. T. G. Pollard.

Dr. Jere L. Crook.

Greetings from Tennessee State Medical Association—Dr. C. M. Hamilton, President.

Greetings from American Medical Association—Dr. Olin West, President-Elect.

Address—Dr. H. H. Shoulders, President, American Medical Association.

Report of Woman's Auxiliary, American Medical Association, Mrs. W. W. Potter.

Report of Woman's Auxiliary, Southern Medical Association, Mrs. H. E. Christenberry.

Report of Board Meeting, Woman's Auxiliary, American Medical Association, Mrs. Robert F. Patterson.

Report of State Officers.

Report of County Presidents.

Report of Chairmen of Standing Committees.

Unfinished Business.

New Business.

Awarding of Trophies—Mrs. Clyde Crosswell.

Report of Convention Committees.



Report of Nominating Committee.  
Election of Officers.  
Courtesies Resolutions.

*Lunchcon, Peabody Hotel, 1:00 P.M.*

Invocation—Mrs. L. M. Graves.  
Guest Speaker—Mrs. Jesse D. Hamer, President of Woman's Auxiliary to the American Medical Association.

*Dinner, Hotel Peabody, 7:00 P.M.*

Invocation.  
Report of Essay Contest.  
Presentation of Gavel and Pin.  
Inaugural Address.  
Announcements by the New President—Mrs. R. F. Patterson.

*Post-Convention Board Meeting*

Mrs. R. F. Patterson, presiding  
Dr. William C. Porter, Col., M.C., guest

*Program of Tennessee Academy of Ophthalmology and Otolaryngology*

Tuesday, April 8, 9:00 A.M.

Room 200, Hotel Peabody

President, George W. Burchfield, M.D.,  
Maryville

Vice-President, J. V. Hodge, M.D.,  
Kingsport

Secretary-Treasurer, Sam H. Sanders, M.D.,  
Memphis

1. In appreciation of Dr. E. C. Ellett—James B. Stanford, M.D.
2. "Cancer of Larynx: Diagnosis and Treatment," Willard J. Irwin, M.D., Knoxville, Tennessee.  
Discussers: E. L. Grubb, M.D., Knoxville, and W. Likely Simpson, M.D., Memphis.
3. "The Evaluation of X-Ray Diagnosis in Ophthalmology, Rhinology, and Otolaryngology," D. H. Anthony, M.D., and Daniel F. Fisher, M.D., Memphis.  
Discussers: Sam H. Sanders, M.D., Phil M. Lewis, M.D., and Ralph O. Rychener, M.D., Memphis.
4. "Treatment of Interstitial Keratitis," Willard H. Steel, Jr., M.D., Chattanooga.  
Discusser: J. Wesley McKinney, M.D., Memphis.

5. "Cancer of Larynx and Special Reference to X-Ray Therapy," Melvin Schlemenson, M.D., Chicago, Illinois.
6. "Nose and Throat Complaints of Non-infectious Origin," Frank W. Buckner, M.D., Chattanooga, Tennessee.  
Discussers: Eugene Orr, M.D., and W. W. Wilkerson, Jr., M.D., Nashville.

*Lunch*

7. "Treatment of Sinus Infections," Fletcher Woodward, M.D., Professor of Otolaryngology, University of Virginia, Charlottesville, Virginia.
8. Discussion of Selected Neuro-ophthalmological Disorders, Henry Carroll Smith, M.D., Nashville.  
Discussers: Robert Leach, M.D., Knoxville, and Phil M. Lewis, M.D., Memphis.
9. "Beta Irridation in Ophthalmology," Charles Iliff, M.D., Wilmer Institute, Johns Hopkins University, Baltimore, Maryland.
10. "Lateral Sinus Thrombosis Treated with Streptomycin—Case Reports," O. E. Ballou, M.D., Memphis.  
Discussers: John C. Turley, M.D., and Charles D. Blassingame, M.D., Memphis.
11. Business Session.  
*Cocktail Party, Hotel Peabody.* Memphis Eye, Ear, Nose, and Throat Society, host.

DELEGATES TO TENNESSEE STATE MEDICAL ASSOCIATION

The following elections of delegates have been certified to this office for the 1947 session. Blanks are being sent to all other counties requesting that certificates be in the headquarters office ten days prior to the opening of the meeting, as provided by the constitution.

*Bedford County*—H. A. Morgan, Shelbyville; alternate, Carl Rogers, Shelbyville.

*Blount County*—W. N. Dawson, Maryville; alternate, J. M. McCulloch, Maryville.

*Consolidated Medical Assembly*—H. L. Gilliland, Brownsville, J. W. Oursler, Humboldt, Jack Thompson, Jr., Jackson; alter-

nates, John Morris, Somerville, E. Farrow, Bells, T. N. Humphreys, Selmer.

*Giles County*—J. U. Speer, Pulaski; alternate, W. K. Oweh, Pulaski.

*Hamblen County*—F. F. Painter, Morristown; alternate, Frank Milligan, Jefferson City.

*Henry County*—J. H. McSwain, Paris; alternate, R. Graham Fish, Paris.

*Lincoln County*—T. A. Patrick, Fayetteville; alternate, W. C. Humbert, Fayetteville.

*Putnam County*—T. M. Crain, Monterey; alternate, W. A. Howard, Cookeville.

*Rutherford County*—V. S. Campbell, Murfreesboro; alternate, Carl Adams, Woodbury.

*Smith County*—Thayer S. Wilson, Carthage; alternate, H. O. Mason, Watertown.

*Sullivan-Johnson Counties*—H. O. Bolling, Kingsport.

*Warren, White, Van Buren Counties*—James H. Boles, McMinnville; alternate, C. M. Clark, McMinnville.

*Washington, Carter, Unicoi Counties*—Harry Myron, Jr., Johnson City, B. S. Shook, Elizabethton; alternates, C. W. Friberg, Johnson City, Leslie Herd, Elizabethton.

*Weakley County*—R. M. Jeter, Gleason; alternate, Ira F. Porter, Greenfield.

## DEATHS

R. P. OPPENHIMER, M.D.

R. P. Oppenheimer, M.D., Knoxville; Medical College of Virginia, Richmond, 1891; aged seventy-eight; died January 28, 1947.

W. W. SLAYDEN, M.D.

W. W. Slayden, M.D., Waverly; University of the South Medical Department, Sewanee, 1897; aged seventy-five; died February 11, 1947.

JAMES WALLACE WILKES, M.D.

James Wallace Wilkes, M.D., Columbia; Cornell University Medical College, New York, 1900; aged seventy-one; died February 19, 1947.

R. E. STACK, M.D.

R. E. Stack, M.D., Erwin; North Carolina Medical College, Charlotte, 1911; aged sixty-one; died February 27, 1947.

SANFORD EDWIN GAINES, M.D.

Sanford Edwin Gaines, M.D., Sparta; University of Tennessee College of Medicine, 1890; aged seventy-nine; died February 19, 1947.

ELBERT GLENARD WOOD, M.D.

Elbert Glenard Wood, M.D., Knoxville; Lincoln Memorial University, Medical Department, Knoxville, 1915; aged fifty-six; died March 10, 1947.

GEORGE ALEXANDER BRANDON, M.D.

George Alexander Brandon, M.D., Lexington; University of Nashville Medical Department, 1901; aged seventy-three; died February 26, 1947.

ROBERT TAYLOR CHILDRESS, SR., M.D.

Robert Taylor Childress, Sr., Kingsport; University of Louisville; aged sixty-eight; died February 22, 1947.

## RESOLUTIONS

RESOLUTIONS ON THE DEATH OF TRENT O. HUFF, M.D., CLINTON, TENN.

Dr. Trent O. Huff was born in Anderson County, Tennessee, forty-five years ago. He graduated from the University of Tennessee Medical School in 1935 and practiced in Anderson County until his untimely death on January 6, 1947.

The Anderson-Campbell County Medical Society thus pays its last respects to our beloved friend and colleague.

*Be it resolved*, That these memoirs be placed in the minutes of the Anderson-Campbell County Medical Society and that copies be sent to the family and to the Tennessee State Medical Association.

J. M. COX, M. D.

J. S. HALL, M.D.

ARCHER W. BISHOP, M.D.  
*Committee on Resolutions.*

## AND WE QUOTE

BRITISH PHYSICIAN REVEALS SOCIALIZED  
MEDICINE IS ENDANGERING HIS  
COUNTRY

Besides the acute shortages of food, clothing, and fuel in the British Isles, a letter received here recently from an English physician reveals the impending evils of socialized medicine that appear to be in store for the British.

The letter was received here by Dr. R. W. Billington of Nashville and Franklin from Dr. A. G. B. Duncan of Kelso, Scotland.

Referring to Britain's present labor government, Dr. Duncan commented that it is "working at feverish rate turning out new laws nationalizing one thing after another. Hospitals and doctors—the bill is now law and comes into force on an appropriate date: All Fool's Day, 1948."

Continuing, Dr. Duncan wrote:

"The National Medicine Service is a terrible document. As long as there's the present shortage of doctors, it won't make such a great difference, but when the shortage is made up, the powers conferred by the bill will be used, and the doctors will have to do just what they are told or be sacked. Then they will have to emigrate or get jobs showing people into seats in the cinema or suchlike, for there will be no livelihood for a doctor not in the state service.

"Honestly, the outlook is very disquieting. In a few years this country may very easily be quite bankrupt and lose all our overseas customers and be unable to run our home economy with a big load of unemployed to maintain. . . .

"When the man fell out of the fourteenth story window, he was heard to mutter as he passed the seventh story, 'Thank God, I'm still safe!' And that's just how we are these days—we're still safe, thank God."—*Nashville Banner, February 10, 1947.*

## NEWS NOTES AND COMMENTS

## NATIONAL SERVICE LIFE INSURANCE

Veterans of World War II have until August 1 to reinstate their National Service Life Insurance policies without a physical examination, the Veterans Administration reports.

For the many physicians who served in the armed forces, N. S. L. I. offers basic insurance protection under more liberal regulations and at lower rates than it is possible to obtain with a commercial company. In addition to the basic term policy, six permanent plans of N. S. L. I. are available, including ordinary life, twenty-pay life, and three forms of endowment policies.

Full information about reinstating or converting N. S. L. I. may be secured by visiting the nearest Veterans Administration office or writing directly to the Veterans Administration's Insurance Service, Veterans Administration Branch Office 5, Atlanta 3, Georgia.

Physicians can also aid the Veterans Administration in its national program to advise former servicemen of the advantages of N. S. L. I. by urging the veterans with whom they come in contact to continue their valuable, low-cost government policies.

ARMY MEDICAL LIBRARY MICROFILM  
SERVICE

During the war, the Army Medical Library, through its photoduplication services, supplied millions of pages of microfilmed medical articles to the armed services and other research agencies. The principle of immediate aid direct to the user, wherever he might be, introduced a new technique to assist medical research.

This service is now generally available for civilian physicians, institutions, and research workers on a cost basis. This means direct access to the library's enormous resources of medical literature.

A fee of fifty cents is charged for filming any periodical article in a single volume, regardless of length. Microfilming from monographs is furnished at fifty cents for



fifty pages or fraction thereof. Photostats are also available at a charge of fifty cents per ten pages or fraction thereof. Material filmed is not for reproduction without permission of the copyright owner.

For convenience and to keep bookkeeping costs down, a coupon system has been established. Users may buy any quantity of photoduplication coupons at fifty cents each. Order blanks are available upon request. Checks should be made payable to the Treasurer of the United States and sent to the Army Medical Library, Seventh Street and Independence Avenue, S. W., Washington 25, D. C.

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Dr. George K. Carpenter announces that Dr. S. Benjamin Fowler has returned from military service and is associated with him in the practice of orthopedic surgery, 1921 Broad Street, Nashville.

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Dr. L. A. Absher announces the opening of his offices for the practice of general medicine, surgery, and obstetrics in the Denton Courts, 2421 North Broadway, Knoxville.

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Dr. David H. Waterman announces that Dr. Sheldon E. Domm will be associated with him in the practice of thoracic surgery, including bronchoscopy and esophagoscopy, at 607 Medical Arts Building, Knoxville.

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Robert B. Bogle, Jr., D.D.S., announces the opening of his offices, 421 Bennie-Dillon Building. Practice limited to exodontia and oral surgery.

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#### ESSAY CONTEST

On February 1, 1947, the Association of American Physicians and Surgeons, Chicago 3, Illinois, launched its first Annual Essay Contest for Junior and Senior High School Students on the subject, "Why the Private Practice of Medicine Furnishes This Country with the Finest Medical Care."

The Association of American Physicians and Surgeons is offering \$1,000 first prize, \$500 second prize, and \$100 third prize for the three best essays in the nation.

The Knoxville Academy of Medicine is offering \$100 first prize, \$50 second prize, and \$25 third prize for the three best essays in their area. The winners will be invited to read their essays before the Knoxville Academy of Medicine.

Essays must be limited to 1,500 words, and the contest is open to junior and senior high school students of all schools, except sons and daughters of physicians.

A committee of three judges will be selected from Knox County, composed of a physician, a teacher, and another member of the laity. The local contest will end on March 30, 1947, in order to allow ample time for local judging. The three winning essays will be forwarded for entry in the national contest.

In order for essays to be considered in the national contest, they must be received at the Association of American Physicians and Surgeons National Headquarters not later than April 30, 1947. National winners will be selected by a committee of three, composed of a member of the national education system, one lay citizen, and one physician, all of national prominence. National prize winners will be announced and prizes awarded on or before May 15, 1947.

#### KNOXVILLE ACADEMY OF MEDICINE.

By the Press and Publicity Committee: Kyle C. Copenhaver, M.D., Chairman; Jesse C. Hill, M.D., Herschel Penn, M.D., Dan R. Thomas, M.D., and J. M. Stockman, M.D.

Essays submitted outside the Knoxville area will be considered by the Knox County Committee acting as a State Contest Committee.

Essayists should have their papers in the hands of the Contest Committee by March 30, 1947.

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#### LOCATIONS WANTED

I am interested in practicing in Tennessee, preferably in a town of about one thousand population, with or without a physician, badly in need of another physician. At present I am serving my internship, which will be completed in July, 1947. I am a graduate of the University of Wisconsin. I would greatly appreciate it if

you could give me some additional information on the towns, especially concerning proximity to hospitals and other facilities.

Address M. G. A., 510 Doctors Building, Nashville, Tennessee.

Vanderbilt graduate, 1941, desires location for junior associate or with group. Full residency in surgery in hospitals approved by the American College of Surgeons and the American Board of Surgery. If interested, address Senior Assistant Surgeon, 510 Doctors Building, Nashville, Tennessee.

## WOMAN'S AUXILIARY

*Dear Auxiliary Members:*

Mrs. Robert F. Patterson, our president-elect, and I attended the third conference of State Presidents, Presidents-Elect, and National Chairmen of standing committees of the Woman's Auxiliary to the American Medical Association held on December 11 and 12 at the Hotel Continental, Chicago.

It was interesting to see so many presidents and presidents-elect—fifty-five in all, the highlight of this conference was the increased interest which the American Medical Association is taking in the Woman's Auxiliary. Through the Board of Trustees, it is giving greater recognition to the Woman's Auxiliary than it has ever given.

The first joint meeting of the Board of Trustees and Board of Directors of the Woman's Auxiliary was held on December 10, 1946. The effects of the discussions at that meeting should be far-reaching. The House of Delegates recommended the extension of the development of the Woman's Auxiliary and that they be provided with a definite program. Dr. George F. Lull was appointed to plan a five-year program for the Auxiliary. With the inspiration of a more definite leadership and a willingness to go forward, the Auxiliary activities should reach new heights.

March is here, and as April approaches we realize we are soon to reach the end of

our year's work and pass on the torch that was placed in our hands one year ago. We are wondering if this light has been used in a way that has meant much matter of helpfulness to those about us.

The time for our State Convention is April 8, 9, and 10, and we hope that every doctor's wife, even though she may not be an Auxiliary member, will make a special effort to attend. We can be interested in any field of endeavor only in proportion to our knowledge of it.

I see a golden opportunity to appeal to doctors' wives who are not organized and not working in some auxiliary to come into the state organization as members at large. The price of membership is only one dollar, and I am sure that you will be more than compensated in your contacts alone. There can be no more beautiful than Auxiliary work. It is under the supervision of some of our most prominent medical authorities.

Come to Memphis and make yourselves known to us. It will be our greatest pleasure to have you one of us and to place at your disposal all the data that we have in regard to Auxiliary work.

Memphis is such a nice place to visit in the spring; so let us have such an attendance at our State Convention that it will serve as an incentive to the next administration.

Mrs. Jesse D. Hamer, President of the Woman's Auxiliary to the American Medical Association, will be with us, as well as many other distinguished guests.

Looking forward to seeing you in April, I am

Sincerely,

BIRDIE BAIRD  
(MRS. W. O. BAIRD)

*President, Woman's Auxiliary to  
the Tennessee State Medical  
Association.*

## MEDICAL SOCIETIES

*Consolidated Medical Assembly of West Tennessee:*

The Consolidated Medical Assembly of West Tennessee met in regular session at

the New Southern Hotel, Tuesday, March 4, 1947, at 6:30 P.M. for dinner. The minutes of the previous meeting were read by the secretary and approved.

A committee was appointed by the president to write resolutions on the death of Dr. Brandon, with Dr. John Pearce as chairman and Dr. Hubbard and Dr. R. M. Conger.

The following delegates were duly elected to go to the State Medical Association meeting in Memphis in April: Dr. H. L. Gilliland, Brownsville; Dr. J. W. Oursler, Humboldt; and Dr. Jack Thompson, Jackson. Alternate delegates are to be Dr. John Morris, Somerville; Dr. E. Farrow, Bells; and Dr. T. N. Humphreys, Selmer.

Dr. John T. Keeton of Clifton, Tennessee (Wayne County), was introduced to the society as a new member.

Dr. Sam Parker gave a report for the committee on arrangements for the Dyersburg meeting.

Dr. Charles H. Heacock, Chief of X-Ray Department, University of Tennessee, talked to our society on "Management of Carcinoma of the Breast." Dr. Albert J. Grobmyer, Jr., Chief of Surgical Staff, St. Joseph Hospital, Memphis, Tennessee, talked to the society on "The Etiological Classification Diagnosis and Treatment of Gall Bladder Disease."

A pamphlet was given to each member on the Blue Cross Hospitalization Plan, and it was announced that Dr. S. M. Herron has been named as the director for West Tennessee.

Members present were: Drs. James B. Stephens, Tate B. Collins, J. M. Curry, G. E. Spangler, Charles F. Webb, J. A. Jones, T. N. Humphrey, Frank A. Moore, B. F. McNulty, John W. Morris, E. Farrow, Jack Douglass, Baker Hubbard, John E. Powers, L. D. McAuley, E. E. Edward, James D. Rozzell, C. W. Davis, W. G. Saunders, John C. Pearce, E. L. Baker, Cornelia Huntsman, R. M. Conger, J. T. Holmes, P. D. Jones, H. N. Moore, R. H. Morris, David E. Stewart, Leland M. Johnston, John R. Thompson, Jr., Ira F. Porter, Swan Burrus, Paul E. Wylie, J. H. Chandler, J. H. McAnerny, James P. Worden, R. F. Hughes,

D. L. Brint, H. L. Gilliland, J. T. Keeton, Sam T. Parker, H. S. Titshaw, O. C. Doty, Alvin Rosenbloom, Henry Herron, and S. M. Herron.

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#### *Davidson County*

February 11: "Venous Catheterization of the Heart," by Dr. Merrill C. Sosman, Clinical Professor of Radiology, Harvard University and Roentgenologist in Chief, Peter Bent Brigham Hospital, Boston, Massachusetts.

February 17: A Symposium—"Headache." Those participating were Drs. Eugene Orr, Robert Sullivan, R. H. Kampmeier, Edna Pennington, and William F. Orr, Jr.

March 4: Dr. O. S. Hauk, Superintendent, Central State Hospital, entertained members of the Society at a dinner, after which a scientific program was furnished by the staff of the hospital. Dr. R. H. Kempmeier read a paper on "Paresis."

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#### *Knox County:*

February 18: An interesting case report, by Dr. E. P. Niceley. An interesting Cardiac Case, by Dr. R. B. Wood.

"Infectious Mononucleosis," by Dr. Jack Chesney. Discussion by Drs. Henry Christian and Oliver Hill.

March 4: "The Role of Folic Acid and Vitamin M in Human Vitamin Diseases," by Dr. William J. Darby, Director of Nutrition at Vanderbilt University, Nashville.

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#### *Montgomery County:*

A meeting of the Montgomery County Medical Society was held February 19, at which time Drs. Milton Smith Lewis and Joe Anderson of Nashville were guests. Dr. Lewis spoke on the subject of "Analgesia and Anesthesia in Obstetrics."

Dr. Fount Russell gave a case report of "Acute Inversion of the Uterus," and Dr. Anderson discussed the case.

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#### *Washington, Carter, and Unicoi Counties:*

The regular monthly meeting of the Tri-County Medical Society was held on Thursday, February 6, at the Johnson City Country Club, at 7:00 P.M. Dr. R. H. Hutcheson, Commissioner of Public Health for



Tennessee, was the guest speaker. He spoke on the subject of "Medical Legislation" and answered a number of questions presented by members of the Medical Society. Forty-three members and guests were present. Dr. Harry Myron, Jr., of Johnson City and Dr. B. S. Shook of Elizabethton, Tennessee, were elected delegates to the State Meeting. Dr. C. W. Friberg, Johnson City, and Dr. Leslie Herd of Elizabethton, were elected alternates. Dr. B. O. Ravenel of Johnson City, Dr. B. F. Shook and Dr. Leslie Lutz of Elizabethton, and Dr. Lee Mosby of Roan Mountain were elected to membership in the Society.

H. B. CUPP, M.D.,  
*Secretary.*

#### *Washington, Carter, and Unicoi County:*

The regular monthly meeting of the Washington, Carter, and Unicoi County Medical Society was held at the Johnson City Country Club on Thursday, March 6, at 7 P.M. Dr. Walter D. Hankins was elected Secretary and Treasurer to fill the unexpired term of Dr. H. B. Cupp, whose resignation was accepted by the Society.

Dr. George T. Harrell, Professor of Medicine at Bowman-Gray School of Medicine, Winston-Salem, North Carolina, was the guest speaker and gave a most interesting discussion on the subject, "The Uses and Abuses of Streptomycin."

Dr. Harry N. Waggoner was elected to membership in the Society.

A total of fifty-two members and guests were present at the meeting.

The next meeting of the Tri-County Society will be held in Elizabethton, Tennessee, on April 3, at which time Dr. Gabriel Tucker of Philadelphia will be the guest speaker.

H. B. CUPP, M.D.,  
*Secretary.*

## OTHER MEDICAL SOCIETIES

### *Annual Meeting, American College of Chest Physicians*

The Thirteenth Annual Meeting of the

American College of Chest Physicians is scheduled to be held at the Ambassador Hotel, Atlantic City, New Jersey, June 5 to 8. An interesting scientific program has been planned for this meeting. Prominent speakers from other countries will present papers.

The oral and written examinations for Fellowship will be held on the first day of the meeting, June 5. Applicants for Fellowship in the College who plan to take these examinations should communicate *at once* with the Executive Secretary, American College of Chest Physicians, 500 North Dearborn Street, Chicago 10, Illinois.

The Convocation for new Fellows and Life Members of the College will be held on Sunday, June 8. At this time certificates will be awarded to Fellows and Life Members admitted since June, 1946.

The American Association of Obstetricians, Gynecologists, and Abdominal Surgeons announces a Foundation Prize Contest.

For further information, write Dr. James R. Bloss, Secretary, 418 Eleventh Street, Huntington 1, West Virginia.

At the meeting of the Mid-South Postgraduate Assembly, held in Memphis, February 11-14, 1947, Dr. J. C. Pennington, Nashville, assumed presidency. Dr. Frank M. Acree, Greenville, Mississippi, President-Elect; Dr. Max Lindsey, Spring City, Vice-President for Tennessee; and Dr. A. F. Cooper, Memphis, Secretary-Treasurer.

### *Abstracts of Papers Presented at Vanderbilt Medical Society, February 7, 1947*

1. Case Report: "Porphyria." By Dr. Lamb Myhr.

A case of acute porphyria was presented in a twenty-eight-year-old white woman who was known to have voided dark red urine all of her life, and during the nine months prior to hospitalization she had had a severe illness characterized by abdominal cramps, weakness, weight loss, and marked generalized muscular weakness. The dark red urine was found to contain large amounts of porphobilinogen. Her general-

ized muscular weakness was progressive, and she eventually developed marked muscular atrophy, especially of muscles of arms and shoulder girdles.

This case was discussed by Drs. Ann Minot and Hugh Morgan.

2. "Changing Trends in the Control of Syphilis in a Community." By Drs. R. H. Kampmeier, William W. Frye, John J. Lentz, and T. V. Woodring.

The past decade has been an interesting one with respect to syphilis control because of the several factors which have entered the picture, each to exert its effect on the control problem. This report records the changing trends in syphilis in Nashville and Davidson County. The material for this report was obtained from the Vanderbilt University Hospital Syphilis Clinic and from the Nashville City and Davidson County Health Department Venereal Disease Control Clinics. The problems arising as a result of newer methods of therapy and the use of penicillin are emphasized. The question of possible "masking" of acute syphilis by the use of penicillin in small amounts for the treatment of gonorrhea and other infections is discussed. Attention is called to the importance of careful follow-up after treatment for gonorrhea particularly, and for those treated for acute syphilis with the newer treatment procedures. Since the end of the war, the acute syphilis rate has shown a sharp rise in the three clinics studies.

This paper was discussed by Dr. Hugh Morgan.

3. "Partial Excision of the Motor Cortex in Treatment of Jacksonian Convulsions. Results in Forty-One Cases." By Drs. Cobb Pilcher, W. F. Meacham, and T. J. Holbrook.

In forty-one patients with severe and frequent Jacksonian convulsions, but without space-consuming or gross cicatricial lesions, partial excision of the motor cortex has been carried out.

No microscopic lesion was found in the tissue removed in fourteen cases. Gliosis was present in the remainder.

There were two operative deaths. Gradual return of motor function with little or

no disability occurred in all but four cases who had moderate (three cases) or severe (one case) hemiparesis.

Eight patients have been completely relieved of convulsions, twelve have shown marked improvement, nine have been improved to a lesser degree, eight have shown no improvement, and three have subsequently died (one of other cause).

It is believed that partial excision of the motor cortex has a place of real value in selected cases with focal motor convulsions.

This paper was discussed by Drs. Sam L. Clark, William F. Orr, Jr., and James W. Ward.

## ABSTRACTS OF CURRENT LITERATURE

### ANESTHESIA

By H. M. AUSERMAN, M.D.  
Medical Arts Building, Chattanooga

Hazards of Anoxia in Nitrous Oxide Anesthesia. Editorial, Journal of American Medical Association, Vol. 130, No. 4, p. 213, January 26, 1946.

Anesthesia by inhalation of nitrous gas presents a number of advantages, such as prompt and pleasant induction of sleep and the rapid elimination from the body. The gas has not been found to have a toxic effect on any tissue. The single imperfection is its lack of potency. When given with the concentration found in air nitrous oxide, will not produce a degree of narcosis in many persons that meets the requirements of surgical anesthesia.

McQuiston and his coworkers maintain that a mixture of twenty per cent oxygen and eighty per cent nitrous oxide may be used without causing serious anoxemia. In their analyses of blood gases in patients who received nitrous oxide anesthesia, they found that any appreciable reduction in oxygen below twenty per cent may become extremely dangerous to the patient. In all their experiments, when the proportion of oxygen in the inspired gases was below 13.7 per cent, the arterial oxygen tensions were in the range of extreme asphyxia, thirty millimeters of mercury. These experiments make it obvious that the administration of nitrous oxide is often accompanied by anoxemia and that the degree of anesthesia is more dependent on the reduction of oxygen than on an increased concentration of nitrous oxide.

The important contribution of Courville, based on a study of thirteen cases, nine of which termi-

nated fatally, demonstrates most emphatically that nitrous oxide oxygen anesthesia may cause serious and even fatal results. A patient may die during the anesthesia with absence of any pathological lesions at necropsy sufficient to account for death. The cause of death in this type of case has been ascribed to status thymicolymphaticus, idiosyncrasy, or anoxemic depression of the respiratory center. In the second group described by him, the patient may survive for hours or months and then succumb. Cases corresponding to this classification are numerous, and most anesthetists with wide experience are familiar with one or more in their own or in the practice of others.

Barach and Roventine stress that in the presence of these specific conditions, methods are not available for distinguishing between persons who may suffer severely from brief bouts of anoxia and those who will recover fully after prolonged oxygen want. They believe that the mortality and morbidity from nitrous oxide oxygen anesthesia as practiced in offices is much greater than is generally known. Protection of the public against death or permanent impairment of mental functioning from anoxia demands widespread dissemination of the fact that asphyxia of even very short duration may be regarded as a grave hazard to the great majority of persons. They propose that nitrous oxide oxygen anesthesia should not be administered with an oxygen percentage of less than twenty per cent. Should anesthesia with a twenty per cent oxygen minus eighty per cent nitrous mixture prove to be not sufficiently deep, other technics should be used rather than resort to asphyxia or even so-called moderate anoxia. Cylinders containing eighty per cent nitrous oxide and twenty per cent oxygen will provide an unvarying concentration of these gases with a cylinder pressure of seven hundred pounds. They feel that the increased cost of such mixtures should not be made the basis of permitting a practice that is dangerous as well as unphysiologic.

## CARDIOLOGY

By J. ALLEN KENNEDY, M.D.

Bennie-Dillon Building, Nashville

**Incidence of Acute Coronary Artery Occlusion: A Discussion of the Factors Responsible for Its Increase.** Arthur M. Mast r, M.D., New York, New York American Heart Journal, Vol. 33, pp. 135-145, February, 1947.

It has become inescapably clear that heart disease has been the chief cause of death in this country since 1912. In 1942, 400,000 people died of heart disease. It is probable that at least 4,000,000 persons are affected with heart disease, and one survey estimates the total at 8,000,000 persons.

According to various authorities, from twenty-

six to thirty-seven per cent of patients with organic heart disease have coronary artery involvement. From these figures it appears that coronary artery disease comprises about one-third of all heart ailments.

Figures regarding the prevalence of acute coronary artery occlusion cannot be obtained accurately from any source, including the United States Census reports, because the census has no specific listing for acute coronary thrombosis or occlusion. It seems likely that in 1942 about 120,000 people died of acute coronary occlusion, and that about 600,000 attacks of acute coronary occlusion occurred.

The ratio of coronary occlusions in men and women is approximately three to one. This means that every year approximately one man in every thirty-eight men forty years of age and over and one woman in every one hundred fifteen women forty years of age and over sustained an acute coronary occlusion. The author points out that the figures for 1942 are practically the same as those for 1941, and he does not consider these figures altered by the war.

Early reports indicated that the mortality rate of acute coronary occlusion was from thirty-five to sixty-five per cent. However, more recent studies have indicated that the mortality rate is from eight to twenty-five per cent. The author believes that the mortality rate for the first attack of acute coronary artery occlusion is less than ten per cent.

The increase in prevalence of coronary artery disease, and more particularly acute coronary occlusion, is attributable to four factors: (1) Lengthened span of life; (2) aging of population; (3) improved methods of diagnosis and treatment; (4) greater accuracy in terminology. The author believes that the principal factor underlying the increase in coronary artery disease is the lengthening span of life which has taken place during the past fifty years.

There are many physicians who still hold the opinion that there has been a true increase in coronary disease, and these physicians point out the stress and strain of modern life, the increase of anxiety states, the abuse of tobacco, and the incidence of overweight as causative factors. The author does not subscribe to this theory.

For many years it has been said that doctors are particularly prone to have acute coronary thrombosis. Physicians are not more prone to acute coronary occlusion than other persons, and it should no longer be thought of as the doctors' disease.

Tobacco is commonly held responsible for heart disease; however, recent studies have shown that the proportion of heavy and moderate smokers in groups of patients sustaining coronary occlusion did not differ from the ratio in the general population.

The present high incidence of coronary artery



disease should not be cause for pessimism, but rather an impetus for further research. Progress in medicine, public health, and sanitation has brought about a decline in the number of deaths in all age groups. Coronary artery disease in the entire field of medicine offers the largest life-saving service, with the possible exception of cancer.

## DERMATOLOGY

By CLARENCE SHAW, M.D.  
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Treatment of Lupus Vulgaris with Calciferol. G. B. Dowling and F. W. Prosser Thomas. *British Medical Journal*, Vol. 58, p. 45. March-April, 1946.

The authors report their experience with calciferol (irradiated ergosterol, vitamin D 2) in a series of forty patients with lupus vulgaris. Its use was suggested by the fact that favorable results have been obtained in the past with cod liver oil and prolonged exposure of the skin to sunlight. With one exception, all cases were of long standing and had received a great deal of previous treatment. Their maximum daily dose was one hundred and fifty thousand units, which was reduced after varying periods to one hundred thousand units daily, in some instances to fifty thousand units. Some patients tolerated one hundred and fifty thousand units daily for several months without ill effects; a few were able to take only one hundred thousand units without discomfort.

Of the thirty-two cases in which it was possible to evaluate the results, eighteen were cured, nine showed marked improvement, and the remaining five were unimproved.

A high calcium intake was not employed, since workers in other fields had determined a high calcium and phosphorus intake contributed to the toxicity in patients suffering from vitamin D poisoning. Often the first symptoms of intoxication were a sense of general well-being and a good appetite. Anorexia may follow, together with nausea, vomiting, diarrhea, and polyuria. Mental depression and headache may be early symptoms. Of the forty patients treated, eight showed symptoms of intolerance.

## GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.  
649 Doctors Building, Nashville

The Office Study of Infertility. Ivan M. Procter, M.D., F.A.C.S., and Kenneth Dickinson, M.D., F.A.C.S., Raleigh, North Carolina.

A practical working procedure for the office

study of sterility in the female directs the search for contributing factors into four main directions: (1) mechanical factors; (2) chemical factors; (3) endocrine factors; (4) general factors. Mechanical factors are those which exist to impede or obstruct the union of the sperm and the ovum. They include the more or less common conditions of cervical strictures and secretions, retroflexed uterus, and tubal occlusion. They are discovered in the course of the ordinary gynecological examination and with the aid of the insufflation apparatus devised by Rubin. Carbon dioxide in controlled amount and under controlled pressure is passed into the uterine cavity and, in the case of patency, through the Fallopian tubes into the abdominal cavity. Patency is demonstrated by kinographic tracings which, in addition, record the presence or absence of tubal peristalsis, by hearing the gas as it passes from the narrow lumen of the tube into the wider abdominal cavity, by visualizing in the fluoroscope the gas as it has accumulated under the diaphragm, and by the occurrence of shoulder pain. In the case of the badly infected cervix, mechanical factors may be introduced by thick, tenacious, or mucopurulent discharges. This may be seen by the method of Huhner of direct observation of the sperm as obtained from the cervical canal. Chemical factors in sterility are studied by the method of Huhner and Kurzrock. A chemical imbalance may exist between the normally alkaline cervical secretions, normally acid vagina, and normally alkaline seminal fluid. In addition, infection may introduce chemical disturbances that are definitely destructive to the sperm. Direct observation of this is possible by obtaining post-coital samples for microscopic examination. The pH of cervical and vaginal mucosa may be determined by the use of suitable indicators. The office investigator will find his endocrine studies limited to two practical and valuable observations. First, the determination of the basal metabolic rate. Litzenberg, in 1937, and many investigators subsequently have pointed out the importance of the thyroid-ovarian association. Definite hypothyroidism, and the less definite subclinical hypothyroidism, are important factors in sterility. Second, the determination of ovulation. The introduction of the aspiration curette by Novak has made this an office procedure. Endometrial biopsies obtained just before or in the first few hours of menstruation will show the typical secretory endometrium showing the luteinizing effect of the ovary, and thus, by inference, the occurrence of ovulation. General factors in sterility are emphasized by Meaker. By them are meant such conditions as anemia, foci of infection in tonsils, teeth, etc., pyelitis, nephritis, tuberculosis, etc. These are determined in the course of routine physical and laboratory examinations. This series of cases under consideration consists of two hundred and ten women studied by all means available to the authors and according to the plan as outlined.

They are unselected, with no effort to evaluate any particular type of treatment. The authors attempt to answer the questions: "What have we to offer the woman who complains of infertility for any reason whatsoever? How many of them will succeed in attaining normal, viable offspring?" They show a record of seventy-three pregnancies in this series of two hundred and ten cases (thirty-five per cent). This total includes fifty-three normal, living babies (twenty-five per cent). Nine pregnancies ended in abortions or miscarriages. One ended in a tubal pregnancy. Ten were recorded as pregnant with the outcome not indicated; seven of these are pregnant at this time, so that the outcome must be awaited. They can now answer the question asked in the first part of this paper. One of each of four women who complain of infertility will succeed in producing a normal, viable offspring under treatment as they employ it. The longer the woman accepts her infertility without treatment, the less success will be had with any efforts to correct it. Cervical erosion, infection, and general pathology were a surprisingly frequent finding in this group. Abnormalities of the sperm occurred in fifty per cent of the male partners. Tubal insufflation is of outstanding value both diagnostically and therapeutically. Endometrial biopsy is diagnostically essential, but, with the exception of thyroid, the endocrines were poorly evaluated. Thyroid is a valuable drug in the treatment of infertility.

## INDUSTRIAL MEDICINE

By JEAN SPENCER FELTON, M.D.  
Monsanto Chemical Company  
Clinton Laboratories  
Oak Ridge

Minor Illness, Short Medical Absence, Lateness and Separation in a Mail Order Firm. L. P. Hellman, K. Brodman, and J. Deutschberger. *Industrial Medicine*, Vol. 16, p. 14, January, 1947.

The authors, from the New York Hospital and Cornell University Medical College, present a tetrad of symptoms important industrially because of the increased production costs. An industry measures values in terms of daily industrial behavior of employees. The authors are convinced, however, that increased personal happiness among workers is the primary mental health objective and the lowering of production costs secondary.

The symptoms considered are: (1) reporting to the medical department; (2) short medical absence; (3) lateness; and (4) separation. A short medical absence of one to three days increases costs because the employee receives full pay while on sick leave, adds nothing to production, requires temporary replacement, and leads to lowered efficiency of production. Reporting to the medical department has similar effects. Termination from employment is the costliest of the above, as training of the new employee is expensive. An organization

with a high turnover has higher costs than one with level employment.

Aware of these circumstances, industry has attempted, through the improvement of working conditions, to alter this picture. Penalties have been instituted for tardiness, and separation has been studied in an effort to isolate the etiology. Previous work by the authors has demonstrated that this tetrad is influenced greatly by emotional disturbances.

The present study concerns a mail order firm, ninety per cent of the employees being women. The analysis is given in quarter periods, based on New York City weather conditions, and covers the period July, 1944, to December, 1945. Findings were as follows: Per cent of employees who have short medical absence is greatest in January, being lowest in August and September. Yearly average is twenty-seven per cent. That is, *during each month of the year an average of twenty-seven out of every one hundred employees (one-fourth of the firm) are absent one or more days for short illnesses*. Employees of this firm having illness during the winter and spring were absent twenty per cent longer than those remaining away during the other seasons.

December saw the highest per cent of employees who were late, May showing the least. Twenty-eight per cent of all employees were late one or more times per month. Those employees who were late in the winter and spring were tardy thirty-three per cent more often than those who were late in the summer and fall. During the winter and spring, there are consistently more employees who have short medical absence than employees who are late; but in the summer and fall, the reverse picture is noted.

*For every one hundred days worked, the average employee reports to the medical department 7.19 times, with a peak in February and falling to a low in September, 1945. Incidentally, the 1944 rates were higher than the 1945. For every one hundred days worked during which employees could be absent one to three days for minor illness, they were absent 2.79 days.* January saw a peak with a low point in June and again with the 1944 rates exceeding those of the following year. *For every one hundred days that employees came to work, they were late 3.62 times, with December, 1944, demonstrating the peak and May, 1945, the low point.*

In connection with separation studies, it was shown that for every one hundred employees on the pay roll an average of 4.05 were separated from the firm each month in 1944, and in 1945, 3.70 monthly. Yearly rate for this amounted to 48.6 and 44.4, respectively.

In the two-year period studied, the number of employees terminated almost equaled the total number on the pay roll.

This review corresponds to other studies made in the seasonal variation in short medical absence

with the higher incidences being found in the first and last calendar quarters. Of special significance is the fact that seasonal variation in the incidence of short medical absence are paralleled, not only by the incidence of reporting to the medical department, but by the incidence of lateness as well. Influencing factor is the weather and the fact that the employees must arise while it is still dark and cold, so that they tend to stay in bed as late as possible, and are thus tardy on coming to work. Emotional and psychosomatic disturbances influence the picture in that the lag in the peaks and low points of both the number of individuals involved in, or of the incidence of lateness, short medical absence, and reporting to the medical department, are in the same order as those items are influenced by emotional disturbances and "poor" work attitudes, as previously reported by one of the authors.

Translating these findings into costs, it was assumed that of each eight-hour day, twenty minutes were lost per lateness and thirty minutes per each reporting to the medical department, and on the basis of the cost of training a new employee being equivalent to two weeks' wages, or *five per cent of all wages paid during the period studied, or five dollars out of every hundred dollars, was found to bring no return in service because of this tetrad of symptoms.*

Of great importance is the fact that employees manifesting these symptoms work less efficiently than do others, thus adding to production costs. It is observed that all illness with a consequent absenteeism and all lateness and separation can never be eliminated entirely, but can be reduced to a minimum though by improving the emotional disturbance and undesirable work attitudes responsible for the great number of these symptoms.

(Abstract of the article seen above is included in an effort to familiarize the private physician with some of the time losses sustained in industry by employees. Full absenteeism studies because of illness frequently are unavailable to the doctor engaged in private practice.)

## OBSTETRICS

By MILTON SMITH LEWIS, M.D.  
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The Significance of Myoma Uteri in Pregnancy. Florence A. Ducking. *American Journal of Obstetrics and Gynecology*, Vol. 51, pp. 819-831, 1946.

This study includes all of the cases of pregnancy complicated by myoma uteri at the author's clinic during the seven-year period between January 1, 1937, and December 31, 1943. There were 361 cases of myoma uteri in 22,283 pregnancies, an incidence of 1.4 per cent. If abortions are excluded, the incidence is lowered to 1.3 per cent.

The author evaluates the complications caused by myomas during pregnancy by comparing the

patients who had myomas over six cubic centimeters in diameter to patients who had myomas that were less than six cubic centimeters in diameter. Myomas of six cubic centimeters or more in diameter have been considered as large or significant because of the relationship of myomas of this size to dystocia. In this series, no myoma less than six cubic centimeters caused any difficulty during delivery, and in the majority of cases where obstruction occurred the myomas were larger. Thirteen patients had definite dystocia due to myoma.

Since myoma uteri are more frequently found in the late childbearing ages, there was a high incidence of elderly primigravidas (15.7 per cent). In direct relationship to this older age group, there was an increased incidence of toxemia.

The significance of myoma uteri in causing sterility is difficult to evaluate. It is during the first half of the childbearing period that a woman is most apt to become pregnant, but later the development of fibroids becomes more pronounced.

Unfortunately, in many cases, myoma uteri is overlooked during the course of pregnancy. Myomas are more readily detected in early pregnancy or post partum when the entire surface of the uterus can be explored on bimanual examination. Frequently they are discovered only when complications of pregnancy and delivery focus attention of them.

Pain is a symptom which is often associated with myomas in rapidly growing pregnant uterus. Ante partum pain due to myoma was present in eleven per cent of the patients in this series. However, no myomectomies were performed during pregnancy because of pain, as recent studies have shown that myomectomy during pregnancy carries a high fetal mortality and an increased maternal risk.

The incidence of abortion (17.1 per cent) and of premature labor (five per cent) in this series was twice the clinic incidence, which is eight per cent and 2.5 per cent, respectively.

In those pregnancies progressing to viability, there was a notable increase in abnormal presentation. Of 298 pregnancies, vertex presentation occurred in only 90.6 per cent. Presentation is affected only by large tumors which interfere with the adaptation of the fetus to the longitudinal axis of the uterus.

There was no evidence that myoma uteri is a factor in causing prolonged labor or premature rupture of the membranes. Prolonged labor was observed in 9.1 per cent of the entire series, and the corresponding figure for the general clinic is 9.1 per cent. Premature rupture of the membranes occurred in 17.3 per cent of the entire series, which the incidence for the general clinic is 36.1 per cent.

There was a high incidence of operative delivery among the patients with large myomas (forty-seven per cent) compared with patients with small fibroids (23.4 per cent) who have an incidence similar to the general clinic.

Post-partum hemorrhage is rarely caused by



myomas. The incidence of post-partum hemorrhage among these patients was 3.8 per cent, an incidence similar to that found in the general clinic, which varied from 1.7 per cent to 4.4 per cent during the same period of time.

The incidence of puerperal sepsis was 15.8 per cent, or over twice as high as was found among the general clinic population. The increase in morbidity occurs almost entirely in the group of patients with large myomas. However, it cannot be accounted for on the basis of an increased operative incidence in this group as it is also proportionately higher following abortion and spontaneous delivery.

The fetal mortality among patients in this series was 9.6 per cent compared with that of the general clinic, which is 3.46 per cent. Myoma uteri was undoubtedly a factor in two deaths following version and extraction, as it offered definite obstruction to delivery, and it may have been a factor in some of the deaths from prematurity.

There were three maternal deaths. The presence of myomas was incidental and entirely unrelated to the cause of death in two of the patients.

## OPHTHALMOLOGY

By ROBERT J. WARNER, M.D.  
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Measurements in Strabismus Operations. C. Dejean. *American Journal of Ophthalmology*, February, 1947.

Dejean has made a study of the technic of strabismus operations in an attempt to bring greater precision to the various procedures. He criticizes the classical operations because of the variability of the results obtained. He considers the operation of tendon advancement unsound since anatomic study has shown that reattachment generally takes place at the old insertion; he finds resection a more logical procedure. He considers complete tenotomy a hazardous operation and favors tendon lengthening as safer and more precise. He described in detail his own technic of muscle surgery and stresses the importance in the resection operation of leaving a two millimeter stump which gives complete security in the reattachment of the cut end of the tendon. A single suture is tied transversely across the tendon fibers, and, in order to give greater security, the conjunctiva is included. As a substitute for tenotomy Dejean employs a tendon lengthening procedure of the same type as is used in orthopedic surgery for lengthening the tendon of Achilles. It consists in the partial sectioning of the tendon in two places on opposite sides. By varying the length of the sections, a graded effect can be obtained.

The author concludes with a study of measurements and offers a table by which the effect of operations on the horizontal muscles can be estimated.

## PROCTOLOGY

By O. C. GASS, M.D.  
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Sarcoma of the Rectum. Milton L. Goldman, M.D., and William B. Marbury, M.D., Washington, D. C. *The American Journal of Surgery*, Vol. LXXI, No. 3, March, 1946.

True primary sarcoma of the rectum is a rare disease. It is probably that in every 200 to 250 sarcomas one is of rectal origin. About one rectal malignancy in 200 is a sarcoma. In 1927, Weeks reviewed the literature and found 100 cases of rectal sarcoma, one-half of which are of doubtful origin. Since that time a review of the literature reveals fifty additional cases. Neither these cases nor those reviewed by Weeks include melanosarcoma, since pigmented tumors are not definitely thought to be connective tissue origin.

Sarcomas are highly vascular tumors of connective tissue origin. In the rectum, they usually arise from the submucosa, but may arise from the muscularis or subserous coats. Since the tumor is usually situated low down and just inside the sphincter area, it may be mistaken for hemorrhoids and treated as such. The growth enlarges and protrudes into the rectum, giving the lumen a half-moon appearance. Other types are pedunculated and may have a stalk or sessile base. The mucosa is usually intact and moves over the tumor. In this stage, it should be readily distinguished from carcinoma.

Since sarcomas usually metastasize by the blood stream, the liver is involved early and the inguinal lymph glands are not involved. Sarcomas are more frequent in the male than female, with a ratio of five to one.

The points of diagnosis and differentiation are dismissed especially in relation to carcinoma. The most confusing differential diagnosis are encountered in distinguishing between a non-ulcerating carcinoma and a sarcoma, and an ulcerating sarcoma and a carcinoma. Carcinoma produces annular constriction; the mucosa is part of the tumor; it often ulcerates early; it may be less voluminous; cachexia appears soon; it produces palpable lymph nodes; it is almost never pigmented. Sarcoma, on the other hand, may not involve the inguinal glands, but involves the liver or lungs early and produces an early voluminous rectal tumor, with usually an intact mucosal covering that moves freely over the tumor. Definite diagnosis is made by biopsy. The treatment of choice is early radical excision, since radium, X-ray, and local excision are followed by a high percentage of recurrence and give uniformly bad results. The average postoperative survival time is about eleven and one-half months. However, cases are reported in which the patient lives from four to five years after surgery.

## ROENTGENOLOGY

By P. H. DIETRICH, M.D.  
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A Case of Intersigmoid Hernia with Illustrations of X-ray Appearances. G. G. Gotlieb, M.D. The British Journal of Radiology, Vol. 19, p. 429, October, 1946.

Dr. Gotlieb calls attention to the intersigmoid fossa lying close to the bifurcation of the iliac artery and extending upwards into the sigmoid fossa behind the sigmoid mesocolon. The catching of the ileum or jejunum in this fossa produces an internal intersigmoid or retroperitoneal hernia.

Only about twenty such cases have been recorded since it was first reported by Eve in 1885. To these the author adds another in which a coil of ilium was involved. The diagnosis was made pre-operatively, and the operative and autopsy findings are given.

The author gives as the radiological findings of intersigmoid hernia:

"1. Marked distension of proximal loops of small intestine.

"2. Normal passage of barium enema apart from a temporary stop at sigmoid at the level of the herniation.

"3. Obvious extrinsic pressure resembling a not well-defined filling defect in sigmoid colon, but varying on changing patient's position.

"4. Normal emptying of colon by evacuation.

"5. Localized tenderness on palpation.

"6. Isolated gas bubble in arrested coil of small intestine, more distinctly seen in erect position, and which cannot be separated by manual pressure from sigmoid (suggesting adhesions)."

Transitory Pulmonary Infiltrations and Apical Cavitation Associated with Eosinophilia. A. Elkeles, M.D., D.M.R.E., and N. R. Butler, M.B., M.C.R.P. British Journal of Radiology, Vol. 19, p. 512, December, 1946.

The authors call attention to the increased responsibility placed upon the radiologist and chest physician by the introduction of mass radiography which is revealing unsuspected pathological pul-

monary lesions. They mention the relatively high incidence of calcified nodular infiltrations due probably to histoplasmosis or possibly infection by various mycoses. Involvement of the lungs in hyperergic-anaphylactic conditions is also revealed.

They present a case of Loeffler's syndrome in a nineteen-year-old soldier "which differs from Loeffler's original description in so far as recurrent, transient pulmonary infiltration occurred over a period of six months and in which a transient, apical cavity was observed." The diagnosis was based upon "transient migratory pulmonary infiltrations with eosinophilia in blood and sputum, occurring in an individual showing an allergic predisposition." This case suggests that non-tuberculous cavitation may occur in Loeffler's syndrome.

In an excellent discussion the authors attempt to "show that the pulmonary infiltrations which constitute Loeffler's syndrome are fundamentally similar to the involvement of the lung tissues, which may complicate the course of angioneurotic edema, Harkavy's type of bronchial asthma, periarteritis nodosa, and possibly rheumatic fever. The severity of the pulmonary involvement appears to depend on the degree of vascular damage caused by the individual antigen concerned and on the constitutional factor which determines the response of the pulmonary tissues to the antibody-antigen reaction.

Considering first the most benign type of response such as occurs in Loeffler's syndrome and angioneurotic edema, the lung changes here may be likened to the urticarial wheal, in which the focal capillary damage is slight and easily reversible. Accordingly, the lung infiltrations disappear as rapidly and completely as does the urticarial wheal. In contrast to this, the extreme degree of vascular allergy is encountered in periarteritis nodosa and to a lesser extent in rheumatic pneumonitis. In these conditions the focal vascular damage varies from increased vascular permeability to endothelial necrosis with hemorrhage or thrombosis and consequently transitory infiltrations as well as irreversible damage to lung tissue are encountered.

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## BONE LESIONS IN GAUCHER'S DISEASE\*

MOORE MOORE, JR., M.D., and BRADLEY L. COLEY, M.D.

From the Memorial Hospital, New York, New York

This disease was first described as an entity by P. C. E. Gaucher in his "These de Paris" in 1882 who called it a primary epithelioma. This impression has been progressively altered so that we now conceive of the condition as being an as yet imperfectly understood derangement of lipid metabolism. In this the lipid kersin may infiltrate the entire reticulo-endothelial system so that the spleen, liver, bone marrow, and lymph nodes may each or all be affected. Bone involvement was first described by Brill and Mandelbaum in 1904.<sup>3</sup> Kersin contains nitrogen, but no phosphorous, and is chemically inactive. It cannot be stained by any of the usual lipid stains. Only Mallory's blue connective tissue stain brings out the wrinkles in the protoplasm of the Gaucher cell. In bone, as in other tissues, the pathognomonic Gaucher cell is demonstrated and occurs in one or all of the following patterns: (a) scattered diffusely; (b) in poorly outlined and confluent areas; (c) in small localized collections. This cell is large (twenty to eighty micromillimeters) with a wrinkled protoplasm, containing an irregular network of fine fibrils. The nucleus is small, eccentric, and pyknotic and often two or more nuclei are found. (Slide No. 1.) According to Pick,<sup>22</sup> endothelial cells are not involved in the process since they do not store the distinguishing lipid kersin; thus Gaucher cells must arise from the reticular components, and

they have been proved to be swollen reticulum cells. He considers the elongation of such cells in marrow to be not from pressure as has been widely suggested, but an inherent growth tendency. The gross picture of the marrow has variable reports. Cushing and Stout<sup>6</sup> found the bone granular, quite soft and capable of being cut with a knife. The marrow had a pale pink tinge and its spaces were quite wide. Mandelbaum<sup>2</sup> has described the marrow as dark red and in both Potter and McRae's<sup>23</sup> and Worth's<sup>27</sup> cases the marrow cavity was filled with a chocolate gelatinous material. Pick<sup>22</sup> says the marrow is usually grossly unchanged, but may show whitish or grayish spotted deposits. In one of our cases the marrow was found to be soft and spongy with a grayish tint. The course of the disease is infiltration of the marrow by Kersin storing Gaucher cells, necrosis of some, then healing by fibrosis. In addition, extravasation and even frank hemorrhage may occur. The limiting tissues (cortex, periosteum, cartilage) are not invaded or destroyed by the foam cells *per se*, but are affected by progressively increasing expansile pressure. Periosteum may be elevated by hemorrhage and cartilage destroyed by loss of nutrition following collapse of underlying bone. As in the leukemias there is no correlation between the intensity of marrow deposits and the duration of the disease. Age does not seem to be a determining factor. Neither long nor flat bones are exempt, but the former are more

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often affected and the site of predilection is the lower end of the femur.

Any affected bone may be tender. The major symptom is pain which varies from nonlocalized and dull in character to being so exquisite as to be confused with osteomyelitis, especially when there is subperiosteal hemorrhage. No true joint effusions have been described. An acute phase is febrile characteristically. These crises are always self-limited, rarely lasting more than fourteen days.

X-rays usually permit diagnosis. The areas most often showing roentgenographic changes are in their order of frequency: (1) lower femur, (2) head and neck of femur, (3) vertebrae, (4) upper tibia, (5) humerus, (6) skull. The definitive findings are generally agreed to be: (1) Generalized atrophy of moderate degree with a coarse-grained spongiosa which is not differentiated from the marrow. (2) Cancellous bone is usually destroyed either in small, well-defined areas, giving the bone a worm-eaten appearance, or in large medullary blotches. (3) Cartilage and periosteum are not invaded. (4) The cortex is thinned



by expansile pressure, but is not penetrated. (5) Due to the continually progressive sequence of Gaucher cell infiltration, necrosis, fibrosis, and hemorrhage, there develops a club-shaped widening of the ends of long bones, particularly the lower femur (slides Nos. 2 and 3). This has been called the "Erlenmeyer flask" phenomenon, and it is the earliest and most reliable of diagnostic criteria. Other long-bone shafts are rarely widened. (6) The head and neck of the femur show collapse and deformity similar to that seen in Perthes' disease. In adult life the changes may resemble arthritis deformans with osteophyte production (slide No. 4). If the disease develops

in childhood, the capital femoral epiphysis is lost, but the trochanteric centers are not disturbed. (7) Vertebral bodies show collapse, but no infringement of the joint spaces. However, if the entire vertebra is destroyed, its articular discs will join. In addition there may be herniation of the nucleus pulposus during the process. The upper lumbar and lower thoracic segments are affected most often. (8) Occasionally there may be calcification in subperiosteal hemorrhage, though true periosteal reaction does not occur. (9) The skull usually presents discrete areas of decreased density, though rarely its plates may be thinned. (10) Pathologic fractures resemble those of Von Recklinghausen's disease.

For diagnosis, care should be taken to scrutinize the spleen, liver, lymph nodes, and blood picture along with a complete history. The importance of bone punctures for diagnosis should be remembered, as concrete proof can thus be obtained with negligible danger.

Gaucher's may be distinguished from tuberculosis by preservation of joint space and by multiple simultaneous involvement of long bones, though Pott's disease has been mistakenly diagnosed.

Perthes' disease may be discounted by a negative lower femur, age of onset (five to ten), and regeneration of the capital femoral epiphysis in time.

In osteomyelitis the patient is gravely ill with correspondingly greater clinical symptoms and signs and lacks thrombocytopenia. Also only one bone is affected.

Lues may be eliminated by serology and periosteal reaction.

Arthritis deformans has a more chronic history without evidence of past "bone crises" and may have had joint effusions. Also the reticulo-endothelial system is negative.

A careful history, plus multiple subperiosteal hemorrhages responding to proper therapy, should eliminate scurvy.

Endothelial myeloma has a rapid course which is limited to one bone at the onset.

Von Recklinghausen's disease resembles Gaucher's chiefly in the similarity of their pathological fractures. The former has a greater incidence. Also the blood phos-



phatase is elevated and the general skeletal system more deformed. None of the other splenomegalies has been shown to have bone lesions which is a great diagnostic aid.

In the literature some beliefs have been encountered with which we cannot agree. The first is that bone lesions are more frequent and more prominent after splenectomy. Pick<sup>22</sup> states that one form of the disease is preponderantly osseous and postulates constitutional predisposition. This is supported by the observation that at times all affected members of a family may have this form only and by the fact that the basic spleen and liver involvement that bone lesions are most frequently encountered. Also, since the spleen represents almost entirely an organ of deposit, its removal can have no logical influence on the process other than symptomatic relief. In reviewing thirty-five cases in which bone was known to be involved we find the following:

There were no cases of permanent relief after splenectomy.	
Temporary symptomatic relief (bone) after splenectomy	1 ( 2.84%)
Bone changes occurring after splenectomy	5 (14.2%)
Bone changes occurring without splenectomy	5 (14.2%)
Bone changes occurring before splenectomy	24 (68.16%)

In these cases the lesions were all demonstrated clinically and by X-ray.

Including our own case we have found eight pathologic fractures of long bones in the literature. The locations were:

Neck of femur (1 patient aged 4)	2 (25%)
Femur (not specified)	2 (25%)
Femur (junction of middle and lower one-third)	2 (25%)
Upper arm (not specified)	1 (12.5%)
Humerus (surgical neck)	1 (12.5%)

In no case was any statement made as to an abnormal length of time for healing. However, our general impression is that both pathologic fractures and bones mistakenly operated upon for osteomyelitis during a "crisis" usually heal without incident if no sequestra develop, especially since crises are self-limited. Our same patient with the fractured humeral neck also developed a subluxated right hip. Only one other such condition was found reported, which also affected the hip.<sup>8</sup>

X-ray therapy has been tried locally for relief of pain, but has been of very limited and temporary value only. The technique of treatment was both by single and multiple treatments.

#### SUMMARY

1. Four cases of Gaucher's disease involving bone have been presented.
2. The conception that splenectomy alters the course of the disease as regards bone involvement is not substantiated.
3. A pathological fracture is recorded in a previously unreported site, the surgical neck of the humerus. Even metaplasia in this area is said to be rare.
4. X-ray therapy is of no great value in relief of symptoms.

#### CASE No. 1

G. De P. (Courtesy, Dr. H. E. Martin.) An American-Italian female who was first seen at Memorial Hospital in April, 1931, aged five years. The child was healthy until eighteen months of age, when her mother noted the abdomen to be large. A splenectomy had been done at four years of age. Convalescence was rapid with an early return to normal activity. It is important to note that on November 15, 1930, X-ray of long bones of both lower extremities showed no abnormal change, also that the liver and lymph nodes were not remarkable.

No detailed description of the skeletal system was available at this time. By October, 1933 (seven and one-half years) the liver had reached the iliac crest, but there was no adenopathy. At this time there was a history of some vague injury to the right thigh, for which the patient wore a cylinder case for three weeks, but had no symptoms when seen at Memorial Hospital. This was the first recorded evidence of bone pain. In May, 1934, the child showed evidence of abnormally slow physical development.

At another hospital on August 18, 1934, she presented a history of two days' duration of pain, swelling, and tenderness of the right lower thigh. Admission temperature was 103 degrees. A diagnosis of acute osteomyelitis was made and operation performed. The surgeon's record is: "Four-

inch incision over swollen area above knee joint. Muscle and fascia tense. Bone exposed by incising periosteum; pus appeared here. Bone about one-half by one inch removed. No frank pus in medulla, but grayish tint to bone, which was soft and spongy." Eleven days later bleeding vessels were ligated and wound repacked. Patient was discharged after three weeks, having a draining sinus.

#### PATHOLOGIC REPORT

"Bone trabeculae with beginning necrosis and the marrow spaces contain a purulent exudate. Stain for bacteria shows no organisms." On reviewing the slides at Memorial Hospital we cannot agree that this was osteomyelitis. Again on November 12, 1934, a sequestrectomy was done due to X-ray findings. Postoperatively, she twice experienced profuse bleeding from the incision. Several weeks were required for the wound to heal. She was again seen at Memorial Hospital on July 25, 1935, at which time she gave a history of having pain in the right lower hip, beginning July 13, 1935. This was relieved by cessation of motion. Physical examination showed the patient to be a sallow-skinned, none-too-well nourished child. The general physical findings were not remarkable except for:

1. Generalized enlarged lymph nodes of moderate size which were firm and easily movable.

2. Rounded abdomen, especially upper two-thirds. Liver edge palpable below the umbilicus on the left and diagonally down to just above the right anterior superior spine.

3. Skeletal: All movements of the right hip were resisted by muscle spasm. There was no muscle wasting of either lower extremity and no local heat or redness anywhere.

The episode gradually subsided and by July 29, 1935, she could bear weight on the right foot without pain. Again on September 14, 1935, she experienced severe pains in the left arm, with swelling and some temperature, all of which subsided in one week.

On December 7, 1935, atrophy of the left shoulder girdle and right thigh were noted, also the left humerus could not

be raised, though the precise cause is not stated. However, on November 14, 1935, palpation was negative for deformity or tenderness. On May 10, 1939, the patient was admitted to another hospital for relief of increasing respiratory distress as result of enlarging abdomen and marked weakness. There was associated edema of the face and hands. Patient was treated by paracentesis on two occasions with temporary relief of symptoms. Patient died at home on June 1, 1939. Post mortem was not obtained.

#### CASE No. 2

A fifty-eight-year-old Austrian Jewish male first seen in March, 1938, who presented himself for relief of a cough of two months' duration. The patient had noted symptomless tumor in the left upper abdominal quadrant for fifteen to eighteen years. This had not changed in size and he had had no treatment. The patient does not remember any bone or joint symptoms. Physical findings were negative, including bone and joint examination except for a firm, smooth, nontender liver reaching three fingers below the costal margin and a freely movable spleen of similar characteristics which extended to below the umbilicus. Positive X-ray findings were limited to the femora, both of which presented the classic "Erlenmeyer flask" phenomenon. Splenectomy was refused.

E. D. R.—A forty-two-year-old Russian Jewess housewife who was first seen at Memorial Hospital in November, 1930, complain of cramp-like pain in the left upper abdominal quadrant. This had a sudden onset four weeks prior to admission and disappeared after two days, leaving tenderness. She had noted some weight loss and weakness about this time. Patient gave a vague history of subcutaneous ecchymosis and had an unexplained epistaxis shortly before November, 1930. Findings were negative except for an enlarged spleen, reaching the iliac crest laterally, but extending downward medially only about five centimeters. There was no bone tenderness. X-rays of femora then show changes suggested of flask phenomena. Patient received one moderate X-ray treatment and reported the spleen to be smaller as of June.

1931. This was thought to be largely psychic. She was lost track of, but reappeared at another hospital in 1935. There she gave a history of splenomegaly of six years' duration with very rapid enlargement in the immediate six months previous, so that severe pressure symptoms were present. Splenectomy was performed, but the patient died twenty-four hours post-operatively. Post-mortem examination yielded a probable diagnosis of Gaucher's disease from the spleen and lymph nodes. The liver was of no help. The only bone marrow examined was from a rib and showed no unusual changes.

E. S. (Courtesy, Dr. G. T. Pack.)—A twenty-five-year-old American-born Jewess first seen in July, 1932, at which time she complained of fullness and a dragging sensation in the abdomen of three years' duration. No bone or joint symptoms had been noticed. Examination was negative save for a slightly enlarged liver and spleen extending to within four fingers' breadth of the symphysis. After first refusing operation in May, 1935, splenectomy was performed. In October, 1935, patient complained of pain in the right knee when X-rays were first taken. These revealed a moth-eaten appearance consistent with Gaucher's disease. Both knees were quite painful and she was confined to bed at intervals until late January, 1936, from which time she was free of pain, until April, 1936. Again in August, 1936, there was considerable bilateral knee and tibial pain. At this time 700 r were directed over the knees with moderate relief. However, symptoms returned in both knees in rather severe degree. In August, 1938, right hip pain caused a five weeks' period of bed rest. In November, 1938, pain in the left hip was noted, but was not severe. Again in October, 1938, patient received 400 r anteriorly and posteriorly over the right hip with only mild relief. When last seen in February, 1939, she was in a quiescent period as regards Gaucher's disease.

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#### DISCUSSION

DR. C. H. HEACOCK (Memphis): Mr. President, Ladies and Gentlemen: I believe this is the first time this subject has been presented to our society, and we are indebted to Doctor Moore for the very excellent presentation. He really does not leave much for a discussant to say.

It certainly is true that, when we have this infiltration of the bone with Gaucher cells, we are bound to have changes recorded on the roentgenogram. It is also true that, except for the signs in the lower end of the femur and possibly some characteristic signs when the mandible is involved, it is not likely that we will be able to make a definite diagnosis of Gaucher's disease from X-ray findings alone.

The most common source of error is the diagnosis of chronic osteomyelitis of an atypical character. I think the explanation for this source of error is probably threefold:

First, Gaucher's disease is a rare disease, and no one is going to learn very much about this disease from personal experience with it because not many of us see cases of it. We do not, there-

fore, build up a very great knowledge from our own personal experience.

Because the disease is rare, the radiologist in examining the films is not likely to think of the disease, and will give it no consideration in his differential diagnosis. If he follows the differential diagnosis as outlined by Doctor Moore, I think he will be less apt to err.

Another source of error is the fact that very frequently the radiologist is asked to limit his examination to one part of the body. When he sees this pathology in one single bone, he will very likely be led into this error of an atypical osteomyelitis. If he is asked to examine more parts of the bone and finds it is not a single lesion, but is a generalized manifestation of some systemic disease, he will not be led into that error, but will consider all these other various diseases which may give rise to osteoporosis, disturbances of trabeculation, areas of rarefaction, destruction, and so on. The diagnosis of chronic osteomyelitis or an atypical osteomyelitis is a very unfortunate error because it may lead the surgeon to institute surgical therapy and, contrary to what Doctor Moore brings out in this paper, I think a review of the literature will show that drainage of these areas is undesirable because it usually results in a sinus that sometimes requires years to heal.

The third source of error is the fact that the radiologist in most of these cases is not regarded as the consultant. He merely has the patient sent in, and we have no information as to why the examination is requested, what information or special information is desired, or what clinical symptoms the patient is presenting.

If, in a case with these unusual bone findings, there is also knowledge that the patient has splenomegaly, has an enlarged liver, has a very unusual bone picture such as has been mentioned, the chances of going astray are greatly reduced, and the possibility of his making a diagnosis of Gaucher's disease will be greatly increased.

I was very interested in what Doctor Moore had to say about X-ray therapy. Personally, I have had no experience in treating any of these patients with radiation therapy. It has been used probably because in a somewhat similar condition the Schueller-Christian syndrome, radiation therapy has proven of great value; but a review of the literature certainly confirms Doctor Moore's conclusion that radiation therapy in this condition does not offer very much benefit. (Applause.)

## THE PROBLEM OF VARICOSE VEINS\*

E. M. STEVENSON, M.D., Memphis

It seems timely to consider the problem of a condition, which carries with it such a high morbidity and a resulting decrease in efficiency of workers. Of five hundred thirty-seven employees in a department store, forty per cent of the men and seventy per cent of the women had pathological varicose veins producing symptoms. There has been an increase in varicose veins during the past three-to-five-year emergency period, due to the older group of men and women accepting more strenuous work, such as standing at machines for long hours. The incidence has increased in the younger group due to such duties as required of combat troops, tank personnel, and pilots.

Consideration of varicose veins is also in order, as the percentage of cures today is not favorable. Even clinics, which give the situation special and particular attention, do well to report seventy-five per cent good results.

At the onset, I wish to give no impression that I have the answer to varicose veins in some new test or surgical technique. My purpose is to suggest a more sound appreciation of present-day knowledge based on work reported by others as well as our own clinical experience. One may expect good results by a proper selection of cases, treating each individually on the basis of extent and location of the pathology. It may be said that no two cases are identical, and obviously treatment will vary as determined by complete testing.

It is only through a fundamental understanding of the normal function of the veins of the lower extremities that one can appreciate the pathology in the varices. In this way we may more accurately diagnose the condition, determine the type surgery indicated, as well as predict the results.

An understanding of the normal physiology of the veins of the lower extremities and the capillary bed is necessary to appreciate varicose veins and their compli-

cations. Three systems of veins must be understood. These systems are the superficial veins, the communicating veins, and the deep veins. The obvious purpose of the veins in the lower extremities is to return the blood to the heart. This depends upon three complementary factors: (1) capillary blood pressure; (2) venous emptying upward, due to the action of muscle against fascia in presence of competent valves; and (3) negative intra-abdominal pressure such as occurs in breathing. The factors, which impede this mechanism are: (1) force of gravity; (2) increase intra-abdominal pressure; (3) disease of the veins or altered adjacent tissue such as loss of firmness seen in older individuals. Intra-abdominal or pelvic tumors, pregnancy, straining associated with conditions such as bronchiectasis, constipation, prostatic disease with urinary obstruction are causes for increased intra-abdominal pressure.

The factors which promote emptying of the superficial veins are less effective because the muscle action is indirect and against a less rigid superficial fascia. With increasing age it becomes less and less effective due to flabbiness of tissues. This is further lessened by defective valves. At this stage, especially, if there is a change of occupation, which requires standing, varicose veins develop. In the beginning the saphenous vein alone is likely to become incompetent, but later the valves of the communicating veins become involved.

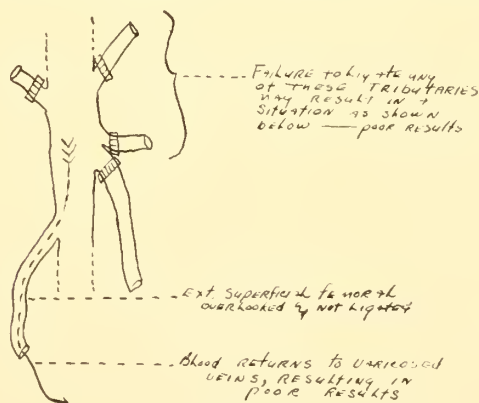


Figure 1

Failure to recognize anomalous tributaries as cause of poor results

\*Read before the Tennessee State Medical Association, Knoxville, April 9, 10, 11, 1946.

Subsequently, there is an increase in capillary pressure, resulting in an abnormal exchange of capillary and tissue fluids. Fibroblastic proliferation results from increase protein content of the tissues. This scar tissue, which give the characteristics brawny induration to the ankle, acts much the same as tourniquet, and is responsible for such complications as eczema and ulceration. Obviously, surgery before this stage is desirable, and one should be cautious as to the results promised in the advanced cases.

I do not feel the need of any new test, but rather a better understanding of the tests we now have at hand. To be useful, the test must reveal the individual variations and extent of the venous pathology.

Normally, the blood flows in one direction—from the superficial veins to the deep veins by way of the communicating veins

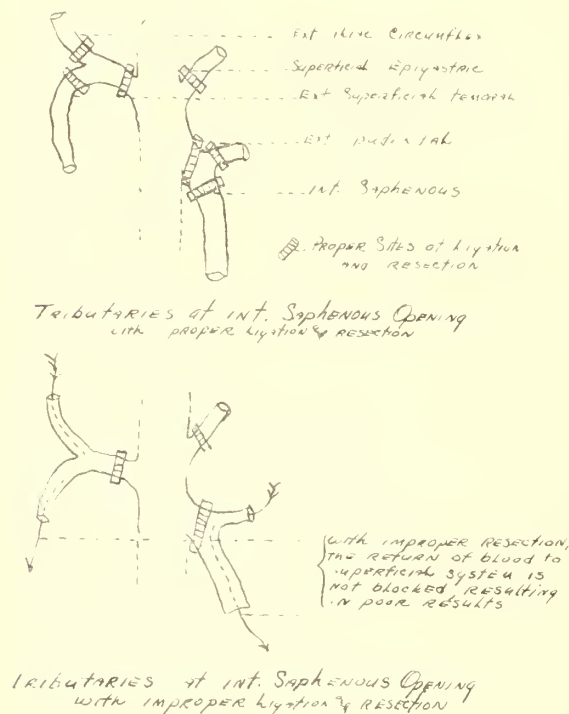
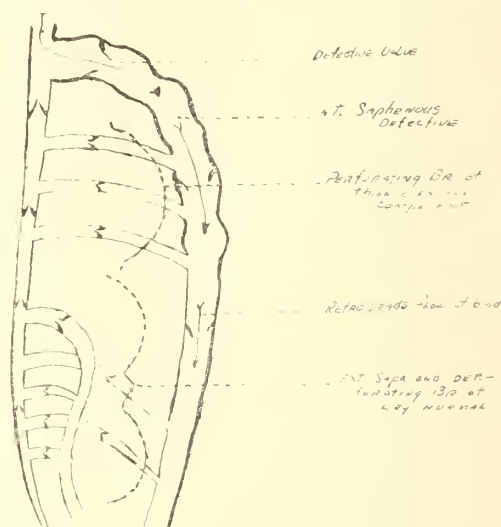


Figure 2

and from the superficial to the femoral vein. The number and location of the communicating, or perforating veins, varies. In addition to the internal (long) saphenous extending from the dorsum of the foot to the femoral vein, we have the external (short) saphenous emptying into the popliteal vein. There is a superficial plexus

of connecting veins which cover the leg and thigh. At the saphenous opening are found three to six tributaries varying as to number, size, and location. Due to the free communications of these tributaries

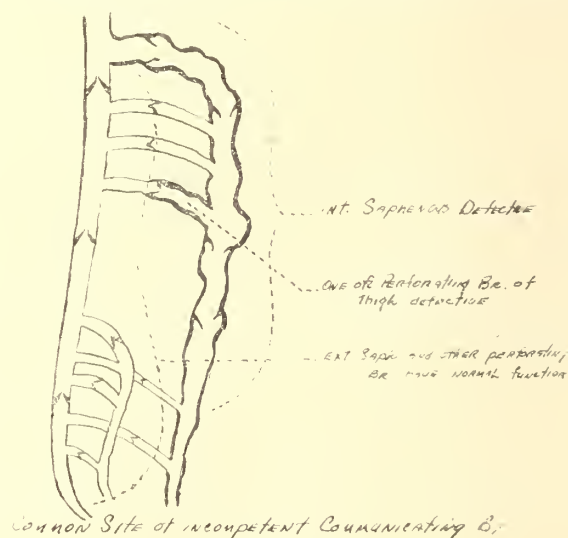


Site of Pathology in int Saph only -

Figure 3-A

to the other veins of the thigh, their presence must be appreciated.

If a so-called high saphenous ligation is to effect a cure, all the tributaries must



Common Site of incompetent Communicating Br.

Figure 3-B

be resected. For example, if the external superficial femoral should be overlooked and its resection omitted during the saphenous ligation, failure to cure would result (if that particular tributary were incompetent). If, at the moment, it were competent, a temporary cure would result; however, this vein alone would be unable



to stand the load and certainly, sooner or later, there would be a "reoccurrence." The same applies to the other tributaries, the most important of which are the external pudendal and the superficial iliac circumflexes.

Moreover, when these tributaries have a common stalk, they must be ligated separately. Actually, our preference for the vertical incision is for the ease in locating any anomalous tributaries. We make a practice of ligating and resecting not only the above, but the superficial epigastric, thoracoepigastric, and any other which may be encountered. Another condition which

appears simple. That is, to locate the site of incompetent valves and by one means or another eradicate the veins affected.

Time will not permit detailed discussion of all the tests, but whichever tests are used, the surgeon should determine the following: (1) competency of valves of saphenous veins, both internal and external; (2) competency of valves of communicating veins, and, if incompetent, at what level or levels; (3) patency of communicating veins, which has doubtful significance; (4) patency of deep veins; and (5) condition of the arteries. Arterial deficiency does not exclude surgical treatment of varicose veins—on the contrary there is greater need for it.

With proper application of such tests as Brodie-Trendelenburg, Perthes, compression bandage, comparative tourniquet, and Pratt's test, one should have the necessary information to dictate the proper surgery. In this discussion I will make little effort to distinguish one test from another or use such phrases as a test being positive, or negative; chiefly, because it will only serve to confuse one. Generally speaking, by complete understanding and proper use of the comparative tourniquet test, we will have adequate information in the greater per cent of the cases. The remaining will

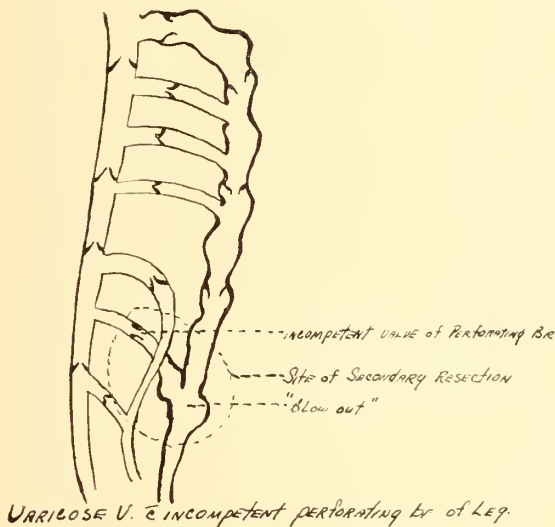


Figure 3-C

may exist in rare instances is an incompetent gluteal vein. A reoccurrence will surely follow, if there exists a posterior incompetent vein in the gluteal region draining from one of the thigh veins. Fortunately, this situation is rare.

The sites are many at which one may find the underlying pathology responsible for the varicose veins. As a general rule, the shorter the duration of symptoms the less extensive the defects. The younger the individual the more likely the internal saphenous vein alone will be the site of the pathology. In the older individuals with varicose veins of years' duration, the communicating veins as well as the external saphenous veins, are more apt to be involved.

Now, theoretically, to expect good results with surgery, the problem of varicose veins

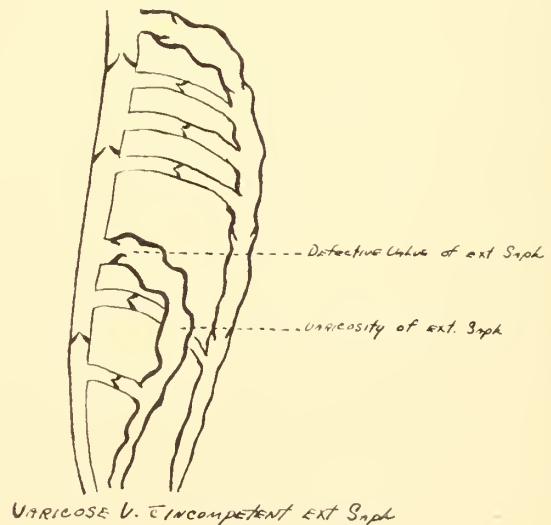


Figure 3-D

include the not-so-common varices due to external saphenous incompetency, those with multiple, incompetent, perforating branches, and gluteal incompetent veins.

The greatest source of error as to poor results is due to inadequate appreciation of incompetent communicating branches. Until recently, I have depended upon the comparative tourniquet test described by Doctor Ochsner, but in doubtful cases, where there may exist multiple incompetent, perforating branches, I occasionally find the test as described by Doctor Pratt more valuable. The Brodie-Trendelenburg test is useful, and is employed as well as Perthes' test in the general work-up of patients having varicose veins. When there is any doubt as to the patency of the deep veins, the compression test is employed. A heavy elastic (not "ace") bandage is applied with rather firm pressure from the toes to the groin. The pressure is tight enough to occlude only the superficial veins. The patient is then told to go for a walk and return in fifteen minutes. If, on his return, he has had no cramps or claudication, I can be sure his deep veins are open.

In the usual run of cases, one will have no difficulty in summarizing the situation, determining to what extent surgery is needed, and also advising the patient what he may expect in results. The problem is chiefly with those cases complicated by multiple "blowouts," incompetent external saphenous, gluteal vein communications, and deep-vein occlusions. All are amenable to surgery with the possible exception of the deep phlebothrombosis. Deep-vein occlusion, complicated by varicose veins, is a real problem. In some instances, disruption of sympathetics may prove of value. It is gratifying to know that these cases are not common; nevertheless, they must be recognized to avoid poor results. In recent months there have been published reports of these deep-vein occlusions being treated by femoral vein ligation even in presence of extensive varicosities of the superficial veins. Personally, I have had no experience with this, and, for the time being, expect to continue with caution. In those cases of deep-vein occlusion complicated by varices a few surgeons are now doing femoral ligation in conjunction with the high saphenous ligation.

It goes without saying that all patients should have a complete work-up. I have

more than once found pelvic tumors associated with varicose veins. Such conditions as hypothyroidism should be corrected.

Since it is obviously impossible to restore varicose veins to normal, treatment can be only directed toward eradication of diseased veins, which, after all, are nonfunctioning. Most men agree that injections alone will not eradicate them. However, one might be justified in using injection treatment (alone) when the patient seeks relief for cosmetic reasons, if, on testing, the saphenous vein is competent. We feel that extensive stripping operations are not necessary; however segmental sections about small "blowouts" may be indicated.

With few exceptions, varicose veins producing symptoms require a high saphenous ligation, and more likely than not, secondary ligations will be needed. Surgical technique will not be discussed as time will not permit.

The best even larger clinics have reported is good results in seventy-five per cent of their cases. Of the remaining twenty-five per cent one-fourth will be due to improper secondary ligations, one-eighth will be due to inadequate saphenous ligation, and the balance will be due to development of new incompetent communication branches. It has been said, "One may cure the varicose vein, but not the tendency to varicose veins."

#### SUMMARY AND CONCLUSION

(1) Varicose veins remain a real problem chiefly because there is a greater need of appreciation for the etiology and the proper use of the tests we now have available. (2) There seems no need of more adequate tests. (3) Surgical technique seems adequate (with exception of those complicated by deep-vein occlusion). (4) Surgical treatment must be individualized. (5) The understanding and more adequate treatment of varicose veins requires complete knowledge of the normal and altered anatomy and physiology. (6) The age and sex factor is significant. (7) Treatment before complications such as eczema is desirable. (8) The so-called high saphenous ligation must be thorough. (9) The less common cases of incompetent external saphenous veins and gluteal incompetent

veins must be adequately dealt with to increase the cure rate. (10) Complete examinations and study of the patient is necessary. (11) If possible, ascertain the cause when due to such conditions as tumors. (12) Coexisting conditions such as hypothyroidism should be recognized and corrected. (13) We do not feel that radical "strippings" operations are indicated. (14) Injection treatment alone is seldom sufficient and cannot be expected to effect a cure. (15) With few exceptions, high saphenous ligation is indicated. (16) Further study with particular regard to deep-vein occlusion should help clarify the problem of varicose veins.

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#### DISCUSSION

DR. HIRAM A. LAWS (Chattanooga): Doctor Stevenson is to be congratulated on the manner in which he has brought to you the problem of varicose veins. His paper shows that he has given considerable thought and time to the subject. I want to re-emphasize some of the points that he stressed in his paper, such as high saphenous ligation with ligation of all tributaries. I would like also to impress that it is very important following saphenous ligation and injection for the patient to continue under observation, with weekly injections of a sclerosing

solution in the remaining varicosities, which were not occluded at the time of the operation.

There are some contraindications for injections and they are:

1. Unfavorable general condition.
2. Debility or old age.
3. Recent upper respiratory infection.
4. Inflammatory changes in varices or recent phlebitis.
5. Late cases of pregnancy.
6. Presence of pelvic tumors or other mechanical obstructions to venous flow.

If a patient has large varicosities, and has some other surgical condition in which they are to undergo major surgery, I think it is always advisable to treat the varicosities first in order to prevent a postoperative thrombophlebitis. Sometimes it is wise in some of these cases where you do not have sufficient time to treat the veins before doing major surgery, it is best to do a high saphenous ligation at the time of the major surgery in order to prevent embolism, in case the patient should develop postoperative thrombophlebitis.

Time did not permit Doctor Stevenson to describe his technique, but I like the retrograde injection method, using the ureteral catheter, with the following technique:

Thigh is prepared as for any other operative procedure. A small incision one and one-half inches long is made over the proximal end of the saphenous under local anesthesia. The proximal end of the saphenous is about three centimeters below inguinal ligament and four centimeters lateral to pubic tubercle. On my own hand, this area is located by placing the base of my middle finger on anterior superior spine with fingers extended; the proximal end of the saphenous is at tip of index finger. All tributaries are ligated—i.e., the superficial, external, epigastric, the circumflex iliac, and external pudendal, superficial internal and external femoral.

The saphenous is well isolated and ligated high. About one centimeter distal to first ligation, a ligature is placed but not tightened. The saphenous vein is caught with two small clamps and incised. A ureteral catheter is now passed down the saphenous vein. When obstruction is met, the catheter is withdrawn slightly and twisted and is worked on down the saphenous vein to below the knee. A twenty cubic centimeter syringe containing five per cent sodium morrhuate is now connected to catheter by means of a needle and injection is made while catheter is being withdrawn. The assistant tightens the distal ligature around the saphenous when the catheter is withdrawn to prevent any leakage. The vein is severed between the distal and proximal ligatures and another ligature is placed around the proximal segment as an added safeguard. The skin incision is closed with No. 00 chromic.

In a few minutes the patient complains of the legs being "drawn" and "tight." They usually have a "heavy feeling" of the extremities. Patient is allowed now to get up and walk around room



before leaving operating room. Due to penetration of the solution into venules and tissue spaces, there is within ten to twelve hours an ecchymotic skin over area injected. The pain and edema usually last two to four days. Painful thrombophlebitis may be treated at home by local application of witchhazel compresses.

In closing I would like to ask Doctor Stevenson to describe Doctor Pratt's test, which he mentioned in his paper.

I want to congratulate Doctor Stevenson on his fine paper and his clear, concise way of expressing and presenting such a great many new and interesting points.

DR. C. C. SMELTZER (Knoxville): Mr. Chairman and members, it is indeed an honor to discuss Doctor Stevenson's paper. I know of no one who is more qualified to present this subject than he because I know he is handling a large number of these cases.

First, I want to say that the treatment of varicose veins is a modern development. When I was in medical school, quite a few years ago, we did not see many of these even then, ten or twelve years ago. Most of the work was coming out at about that time.

There are two classes of patients who come to us for treatment of varicose veins; the first class are the young ladies with early veins who come to us for cosmetic results; the other class is the older age group who come because of disability in their work.

I think a study of the statistics will show that probably females predominate, two to one, at least. I have in mind, for instance, a man who is superintendent of labor relations on the Clinton project, who came for consultation because he could not walk over 300 or 400 yards before his legs cramped. Knowing how labor conditions have been, you know he had a lot of walking to do. After a reasonably successful operation, this man stated he could walk ten miles a day without any trouble. He was an old football player; his veins were apparently the only thing wrong with him.

There is another group that comes for treatment—the group with the large ulcers—and the question arises, Shall you wait until the ulcer is healed before you ligate the vein, or shall you ligate it at that time? I think once infection is fairly well controlled the quicker the vein is ligated and injected, the quicker the ulcer will heal.

One other thing we have to contend with in treating varicose veins when we run across them is this: you will see a patient with very large varicose veins and ask why she does not have something done about it. Dr. So-and-So, she says, told her never to bother about it, and "if I do I will lose my leg."

There is another group of cases that are very serious at times, and that is the case of acute thrombophlebitis of the superficial veins. I have in mind a case I observed in Memphis a few years

ago in which a principal of a school came in with a red spot on the leg and a hard area in the greater saphenous vein. He was sent back home with sulfa drugs and local applications, and returned the following day and the site was a little worse. A day or two later he was hospitalized with a high fever, chills, and became delirious, and finally died of multiple infected emboli over the body.

I think that type of case should always be treated early by ligation, high and far above the site of the thrombophlebitis, and, if necessary, that this infected trauma should be incised and drained. I have since seen another case that I happen to know who died of a similar situation.

A few remarks about the technic: Doctor Stevenson did not have time to go into the technic. He mentioned the vertical incision. I prefer transverse incisions in the crest of the groin which will be large enough to give adequate exposure, and which with proper retractors can be mobilized to visualize the entire groin area.

In this manner you can locate these gluteal veins which are sometimes there. A few months ago I happened to have a case that had three gluteal branches all as large as a lead pencil which went directly from the varicose bed below into the gluteal system without entering through the fossa ovalis, and if these had been missed I am sure that particular patient would not have had a good result.

As to retrogression of sodium aurate, I think that depends on the individual case. In two-thirds of the cases I think it should be injected at that time, and in one-third of the cases, especially if there has been any history of thrombophlebitis in any of the three, probably the injection should be made later.

These cases are all done under local anesthetic and they are up and walking within an hour, preferably, unless they have some reaction that prevents it. We always bandage the leg moderately snugly with Ace bandages in order that the two walls of the vein, like a coat sleeve, will adhere together and so you will not have a large, bulky thrombus that will take sometimes months to absorb.

In my own limited experience the cases of varicose veins are one of the most grateful groups of cases we have the pleasure of treating.

I enjoyed Doctor Stevenson's paper very much.

DR. E. M. STEVENSON (closing): Mr. Chairman and gentlemen, I am very sorry I was unable to discuss such phases as surgical technic and other phases that obviously were called to your attention. I wish to thank Doctor Laws and Doctor Smeltzer for their very nice discussions. To me it showed quite a bit of work on their part.

We were discussing primarily the problem of varicose veins, and as I see it that depends upon the diagnosis as to extent and variation in pathology. Doctor Pratt's test, since the preparation of my paper, was brought to my attention further by

Doctor Lyall of New York in the March issue of *Surgery, Gynecology, and Obstetrics*. He modifies Doctor Pratt's test somewhat by the placing of two tourniquets when he suspects a blowout from his routine examination. At the area of suspicion, with the leg elevated and the veins emptied, he placed one tourniquet above and one below this suspected area, and then stood the patient. If that area remained collapsed, he knew the perforating branch was competent. On the other hand, if he saw the blowout between the two tourniquets this substantiated his suspicion.

I do not know whether I made myself clear on that or not. The test is rather difficult to explain unless one has an actual demonstration or slide.

Pratt's test, as he described it, was the application of an elastic bandage with the leg elevated from the toes to the groin, and at the groin he

began the application of another tourniquet (Ace bandage) and as he removed the first one which he put on from the toes up, he started the one from above down, leaving an exposed segment of the extremity. As the upper bandage was applied the lower one was removed, leaving an exposed area in the extremity which would demonstrate a blowout as he went down the leg, with the placing of one and removal of the other. As I say, it is difficult to explain without a demonstration or slides. I hope you can understand it from that description.

In regard to the deep veins, I hope in the near future Dr. Harwell Wilson and I will be able to find some answer to this at the university.

Again I wish to thank Doctor Laws and Doctor Smeltzer for their very kind discussion.

## Clearview

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## SOME UNUSUAL COMPLICATIONS OF DIPHTHERIA\*

JOE W. JOHNSON, JR., M.D., Chattanooga

In 1938 the German nation began to spread over the continent of Europe. It was not until almost four years later that our own nation was also caught up in the catastrophe of war. During this time another catastrophe spread over Europe. One of many, which we in the United States have so far been spared. It comprised a tremendous diphtheria epidemic with a total in 1943 of about 630,000 reported cases in all Europe except Russia<sup>1</sup>. Estimates allowing for incompleteness of reporting and nonreporting countries except Russia put the total at a million cases in 1943, and at least that many in 1944. In Norway, where the annual prewar level (median 1928-38) was 968 cases of diphtheria, there were reported in 1943, 22,787 cases, or twenty-four times the prewar level. Belgium reported almost eight times as many cases, the Netherlands almost fifteen times as many, France twice as many, Germany three times as many cases, with the neutrals, Sweden and Switzerland, respectively, reporting four times and two times the prewar level of diphtheria. England and Wales, however, in 1944 showed just about one-half the number of cases the prewar experiences would lead one to expect<sup>2</sup>.

This "rebound of diphtheria" may prove of significance to us, for Germany is no longer isolated from us, and Stowman concluded that "diphtheria has turned out to be the leading epidemic disease of war on the European continent both as a cause of morbidity and mortality."<sup>3</sup> Since 1939, the gravity of the disease has shown a marked increase, and frequently, in spite of immediate and ample serum treatment, death occurred as a result of severe toxic action, often without membrane formation. Stowman further points out that thousands of soldiers will return from Germany or from contact with prisoners from that country

and adds that "it will be somewhat surprising if some of them do not bring strains of this highly virulent diphtheria to our shores."<sup>4</sup>

The purpose of the present paper is three-fold: (1) to draw the attention of this society to the above implications; (2) to emphasize certain difficulties in the diagnosis of diphtheria; and (3) to report clinical data amassed during service with one of the General Hospitals in the Mediterranean Theater.

The clinical material upon which this report is based is drawn from a study of 155 cases of polyneuritis. Thirty-four per cent of these cases were cared for and studied

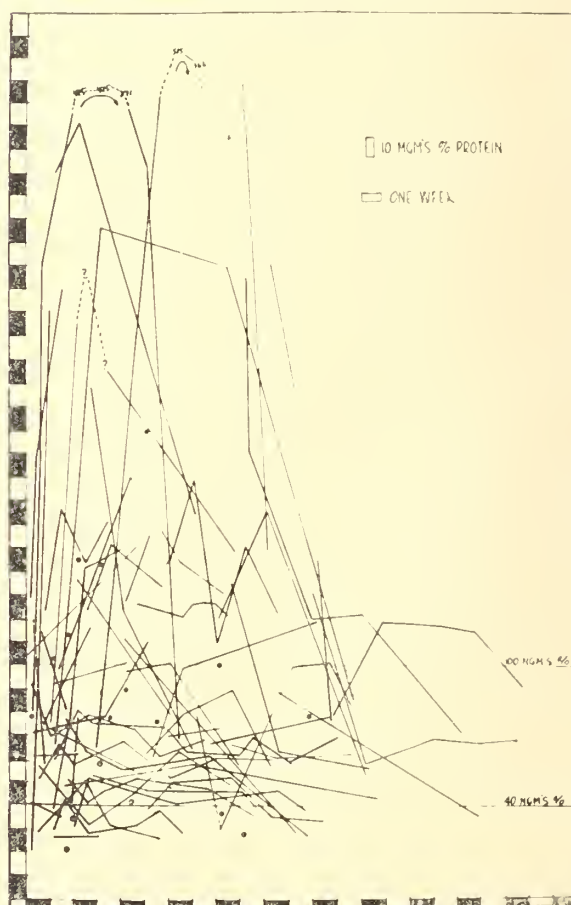


Fig. 1

on the author's own service. Other cases were examined by him at various American, British, and German hospitals, and still other data were collected from records of

\*Read before the Tennessee State Medical Association, Knoxville, April 9, 10, 11, 1946.



other United States hospitals. In 133 of the cases, there have been performed 354 examinations of the spinal fluid, and records have been available to indicate the quantitative determination of protein in 311 examinations made upon 112 of these patients.

The data were originally gathered<sup>5, 6, 7</sup> at the orders of the Surgeon, Mediterranean Theater of Operations, U. S. A., in an effort to understand the nature of cases seen in that theater, characterized by widespread motor and sensory changes and associated with an albumino-cytologic dissociation of the spinal fluid. This syndrome has frequently been referred to as the Guillian-

nau<sup>9</sup> that "our knowledge of diphtheria is most satisfactory in that we know the cause of the disease and its mode of transportation, we are able to check its spread and possess specific preventives, a precise measure of susceptibility, and a curative agency of great potency." Thereafter diagnosis is somewhat anticlimatic. Yet the same author reports "diphtheria often comes on insidiously, the sore throat may be plastered with false membrane without attracting attention, and sometimes the first inkling of an attack of diphtheria is the onset of postdiphtheritic paralysis."<sup>9</sup> The recognition of diphtheritic complications when diphtheria has not been recognized may or may not be difficult. Such complications may arise weeks after the acute illness, and a "typical diphtheritic march" through the nervous system may not occur. Top,<sup>10</sup> in a discussion of the postdiphtheritic nerve paralysis and the probable time of occurrence, lists palatal paralysis as occurring on the tenth day or later, and general paral-

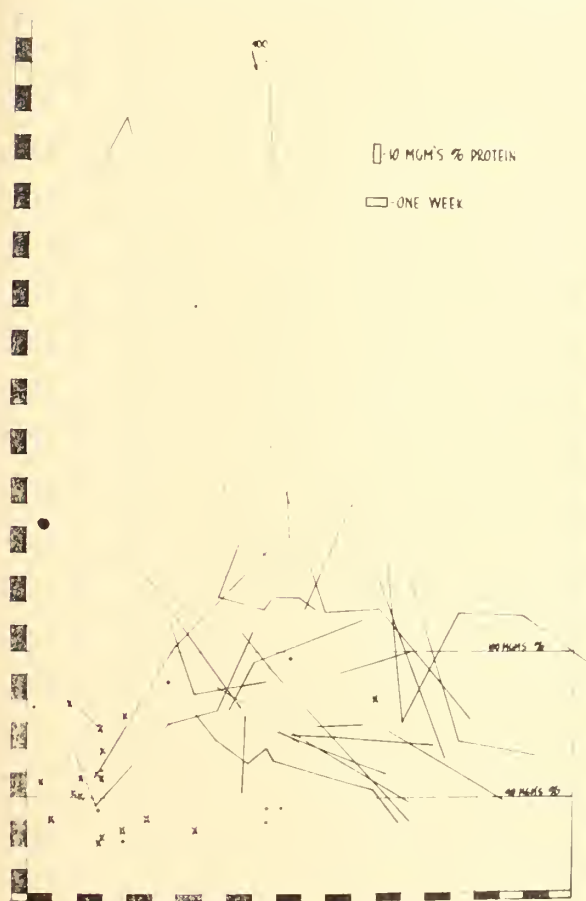


Fig. 2

Barre Syndrome<sup>8</sup>. It became apparent that a majority of these cases seen in Italy were probably attributable to postdiphtheritic polyneuritis (58.06%).

The problem of diphtheria and particularly of its neurological complications is made more difficult by a feeling by Rose-

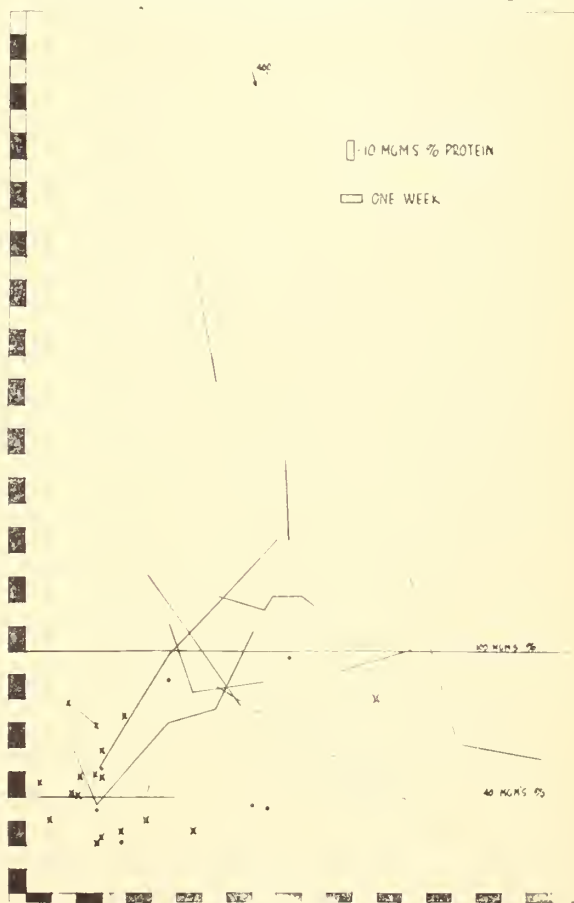


Fig. 3

ysis or paresis as late as the fifth or sixth week. A review of the sixteen cases which were used in the construction of figure 3 and, with some reservation, an additional nineteen cases used for the construction of Figure 2 will indicate that there is very considerable variation in the prodromal time factors. This might well be anticipated if one recalls that faucial and nasal diphtheria may or may not become symptomatic and that symptomatic diphtheria, either faucial or cutaneous, may be promptly or belatedly diagnosed.

Because of this prodromal time factor, which varies from days to several weeks, a significant dichotomy of approach has developed, one made particularly evident by the time factor in military evacuations. It is offered as one factor contributing to the confusion which surrounds the problem of polyneuritis and may be briefly stated. In terms of experience, it frequently happens that when a case of diphtheria is complicated by nervous system involvement and the patient is under the care of a pediatrician or an internist, a spinal fluid examination is not done. On the other hand, if the patient some weeks after his initial illness comes under the care of a neurologist, the history of significant prodromal sore throat may not be obtained, or, because of the spinal fluid findings, be considered insignificant. Gordon Holmes,<sup>11</sup> in discussing the differential consideration relative to acute febrile polyneuritis, though offering differential considerations for alcoholic, lead, arsenic, and beriberi neuritis, suggests only that the recent occurrence of diphtheria "should in the first place be excluded." Guillian concludes, "the evaluation of diphtheritic paralysis, with history of antecedent membranous sore throat, paralysis of the palate, disorders of accommodation are entirely different from the syndromes" bearing his name, though he acknowledges post-diphtheritic albumino-cytologic dissociation.<sup>8</sup>

It is offered that the diagnosis of diphtheria is not easy, its substantiation even more difficult, and that diphtheria recently has been atypical. Thus Fleck<sup>12</sup> reports an outbreak of diphtheria among German prisoners of war in this country. He calls

attention to the trends in the recent literature on diphtheria which indicate an increasing incidence of the disease in adults with a clinical course which is not generally considered as being characteristic. In discussing complications in his series, only three out of seven patients which showed cardiac involvement had had membranous sore throat. Of the five patients suffering from postdiphtheritic paralysis, only one had been recognized and given antitoxin. The four other patients had not been previously diagnosed as diphtheria, but gave a definite history of sore throat six to eight weeks before the onset of neurologic symptoms, and one of these had been treated with sudfonamides. All five patients had "eye complaints one month to six weeks after the original illness, followed in sequence by dysphagia and regurgitation of fluids, paresthesias in fingers and toes, and finally muscular weakness, most marked in the lower extremities." Fleck feels that diphtheria had not been diagnosed in the initial outbreak of diphtheria because "the clinical picture was that of acute follicular tonsillitis." He concludes that less than one-third of the patients properly diagnosed presented typical membranous sore throats, and that the epidemic he studied represented the aftermath of diphtheria as encountered by German troops in various parts of Europe and the Middle East. Norris et al.<sup>13</sup> report eighteen cases of diphtheria occurring aboard a United States naval hospital ship, of which thirteen developed some form of postdiphtheritic paralysis, one with fatal results. The majority of these patients were not suspected of having diphtheria until paralysis had set in.

In addition to atypical course, it may be fairly stated that much of the difficulty encountered arises in part from the contemporary American physician's limited clinical experience with diphtheria in adults, including its complications (in contrast, for example, with the British physicians), and in part from a considerable lack of agreement as to what constitutes the diagnosis of diphtheria. Some clinicians require confirmation by direct smear before reporting diphtheria, while others carry the culture through tellurite for identification, some

through the biochemical tests of fermentation less they report diphtheroids, and a few are still more hesitant to report diphtheria without laboratory confirmation of the virulence of the stain. It is important that cultures be taken and that every effort toward accurate identification be made so that the laboratory is aware of disease incidence and the clinician informed of disease likelihood. However, in terms of an individual patient, careful taking of swabs in suspected areas may be expected to give organisms proven eventually to be virulent in only six out of ten examinations when organisms are known to have been present. The organisms, of course, may not be present when the differential consideration bearing upon the etiology of polyneuritis are encountered, since it may be possible that a long period of time elapses between the elaboration of neurotoxin, the absorption of neurotoxin, and damage to nervous tissue as evidenced by symptom and sign.

At the Conference of Army Physicians, Central Mediterranean Forces,<sup>14</sup> held in Rome, January 29 to February 3, 1945, Lt. Col. J. E. Caughey, N.Z.M.C., reports his experience with twenty-five cases of diphtheritic polyneuritis, fifteen following faucial and ten following cutaneous diphtheria, and refers to cases with advanced polyneuritis in which "the laboratory reported the infecting agent was avirulent." The inference, of course, is that the organism which was tested rather than the infected organism was avirulent, presumably picked somewhere in the line of identification from the wrong colony. At the same conference, Major A. W. Bagnall, R.C.A.M.C., referred to seven cases in which tonsillectomies were performed in carrier states and in which virulent diphtheria were obtained in cultures from the depth of the tonsils in all cases, though one had had eight negative throat cultures during a five-week period prior to tonsillectomy. In short, diphtheria, faucial or cutaneous, may be difficult to diagnose clinically and also bacteriologically. The effort to make the diagnosis of diphtheria clinically and bacteriologically may present difficulties which are reflected in certain other complications of diphtheria

being considered as of unknown etiology or as of "presumed virus etiology."

There is also evidence<sup>15</sup> to suggest that diphtheria encountered in Italy during the past two years has been accompanied by a much higher incidence of polyneuritic complications than the American physician has been accustomed to expect in his own country. Following the liberation of Florence, for example, polyneuritis comprised 90 to 95 per cent of 115 complications in 397 cases of diphtheria admitted to a children's hospital there during a seven-month period with myocarditis comprising only 5 to 10 per cent of complications. In contrast<sup>16</sup> from 1927 to 1936, at a contagious disease hospital in Detroit, there were admitted 6,011 cases of diphtheria with only 7 per cent of complications attributed to palatal paralysis, 1 per cent to ciliary paralysis, whereas motor paralysis comprised less than 1 per cent, with involvement of sensory perception even less frequently noted. Twenty-one per cent of complications, however, consisted of myocarditis.

As for the susceptibility of the American adult male, in spite of our excellent pre-school immunization, there are data<sup>17</sup> to indicate that 44 per cent of troops ready to embark for overseas service are susceptible to diphtheria. This is on the basis of Schick tests on a representative sample of train troops (2,933) about to embark for overseas service.

The 155 cases studied have been diagnosed in the United States Army hospitals as infectious polyneuritis, postdiphtheritic polyneuritis, Guillian-Barre's disease, or one of its many synonyms such as myelodradiculitis. In the present reporter's opinion, ninety of these cases are examples of postdiphtheritic paralysis. If this opinion is correct, 58 per cent of polyneuritis studied was due to diphtheria. The difficulties encountered in the diagnosis of diphtheria are further emphasized, for 66 per cent of these ninety cases were not recognized or treated as diphtheria until after the onset of neurological complications.

Brief presentation of a few of the ninety cases will illustrate these difficulties:

1. (5) In early November a twenty-three-year-old soldier was discharged from an



evacuation hospital where he had been admitted for a sore throat. Two days later he developed numbness of the tongue and throat which lasted two weeks. Still on a duty status as a soldier, he noticed at the end of December numbness of the toes and fingers and in mid-January developed palatal paralysis. He was admitted to a general hospital on February 2 where he was noted to walk on a broad base. There was ataxia of hands and feet, with "stocking-glove" anesthesia of the lower two-thirds of legs and forearms. All deep tendon reflexes were absent. All superficial reflexes were equal and active. He complained of distal paresthesias. Improvement was gradual. On February 7, some three months after his sore throat, spinal fluid protein was a 144 milligrams per cent with four cells; five days later it was 73 milligrams per cent; and three weeks later a 118 milligrams per cent; in mid-March spinal fluid protein was 117; at the end of March, 115; and on April 14, and over five months after he was discharged from the evacuation hospital as cured of his sore throat, he was still symptomatic and had a spinal fluid protein of 91.7 milligrams per cent.

2. (10) A twenty-three-year-old soldier developed tonsillitis on October 5 and was admitted to an evacuation hospital. Three smears were negative for diphtheria. Three weeks later he developed difficulty in swallowing. In early November nasal speech and regurgitation and weight loss were commented upon. Findings otherwise were not considered remarkable. In late November, diplopia, weakness, and numbness of the legs were commented upon, and on the first of December there was difficulty in coughing, weakness of all extremities, and total areflexia. On December 4 it was reported that "his legs felt dead." A week later he was unable to hold his head up and had external ocular muscle paralysis. On December 13 there was weakness and numbness of his hands, and on March 6, five months after the onset of the sore throat, it was noted that the patient complained of burning in the feet, but is "improving and is now able to walk a bit." Spinal fluid examination on November 29 was 64.8 milligrams per cent of protein; on December

6, 99 milligrams per cent of protein; and on January 13, a 117.9 milligrams per cent of protein.

3. (12) A twenty-six-year-old-soldier developed a sore throat on October 21 with negative culture for diphtheria and two negative smears for diphtheria on the 22d. Because of "an occasional suspicious klang" on October 23, he was given 160,000 units of antitoxin, and a positive culture was returned later that day. On this day nasal speech was noted, and an electrocardiogram was interpreted as "abnormal." A month later it was reported that the patient was asymptomatic save for nasal speech and some regurgitation. Culture was still positive for diphtheria on December 12. Neurological examination on December 14 had brought out a history of blurring vision while reading. There was difficulty in convergence. Also noted was numbness and tingling in hands and feet, especially the right hand, which was weak, a slight right facial weakness, partial pharyngeal and palatal paralysis, hypoesthesia and hypalgnesia in distal portions of the extremities, generalized weakness in the right hand and foot, absent deep tendon reflexes, weak abdominals on the right, and absent cremasterics. There were coarse fibrillations of the tongue. On December 30, spinal fluid examinations revealed five cells and 400 milligrams per cent of protein, and on January 6, some ten weeks after the development of sore throat, spinal fluid examination revealed two cells and 150 milligrams per cent of protein.

4. (21) A twenty-one-year-old soldier was hospitalized for multiple wounds which had been received on May 23 at Anzio. While hospitalized on July 19, it was noted that he had a "severe tonsillitis, considered follicular, with a temperature of 102." A note reads, this is manifestly a fluctuant peritonsillar abscess." On August 17, the note reads "ready for duty," but the patient was transferred to a general hospital a month later because of "neurocirculatory asthenia and apparent paralysis of the left pharyngeal wall." On admission to the general hospital, there was evident weakness of all extremities with marked ataxia, palatal speech, and stocking-glove hypalgnesia to

knees and elbows. Course was one of improvement, particularly in sensation and cranial nerve involvement (palate and accommodation), but paresthesias and weakness persisted. On September 16, two months after the onset of sore throat, spinal fluid examination revealed a protein of 125; a week later, spinal fluid protein was a 151; and on October 12, three months after the onset of sore throat, spinal fluid protein was a 134.2 per cent. On this last examination, though no pleocytosis had been evident before, there were noted four polys and sixty-eight lymphocytes.

5. (25) A thirty-nine-year-old soldier hospitalized in early July for diphtheria and treated with penicillin and antitoxin. He was discharged to duty in mid-August and felt weak and tired easily. On September 1 he developed tingling in the hands and feet and dull aches in the thighs and calves. Weakness of the legs progressed until he was unable to get in and out of vehicles, and he was hospitalized. On October 13, it was noted that strength had decreased in the lower arms and legs, tendon reflexes were absent, and superficial reflexes were present. There was peripheral hypoesthesia to all sensory modalities, greater on the right than on the left, ataxia of hands and feet, and there was a positive Rhomberg. Calf muscles were moderately tender. There was a left palatal flaccidity, and towards the end of October it was suggested that hysteria was a less likely diagnosis than polyneuritis. Spinal fluid examination at that time revealed a protein of 135 with no cells. On November 13 there were no cells and 63.8 milligrams per cent of protein. Deep tendon reflexes had now returned, but were diminished. On December 8 spinal fluid protein was 56.8; deep tendon reflexes at that time were equal and active. Sensory impairment was then limited to the finger tips of the left hand. He continued to improve.

6. (34) A twenty-six-year-old soldier was admitted to a general hospital with a diagnosis of ecthyma gangrenosa, severe, both legs. Patient had scratched his left calf on October 16 and developed an ulcerated lesion at the point of injury. Several sim-

ilar lesions developed over both lower extremities with erythema between the ulcers. He was treated with penicillin and sulfadiazine. About November 27 the patient complained of numbness in both upper extremities to the level of the midarm with generalized weakness. There developed marked difficulty in walking. On December 3 blurring of vision set in, lasting briefly. On December 5 he developed difficulty in coughing and marked palatal speech. He received a neurological examination on December 7. At the time, cranial nerves were considered normal except for palatal palsy. There was marked ataxia of the hands and feet, with loss of position sense, most marked in the feet and pain loss in stocking-glove distribution, most marked in the upper extremities, with generalized loss of tone. There was great difficulty in holding the head erect. An electrocardiogram revealed evidence of myocarditis. He was given 100,000 units of antitoxin and died in respiratory failure early the next morning. The spinal fluid examination two days before death revealed thirty white cells and 109.9 milligrams per cent protein. The possibility of cutaneous diphtheria was raised. Cultures were negative at autopsy.

7. (51) On April 8, a twenty-three-year-old soldier noted numbness and aching in his legs, which was followed the next day by a sore throat, and a week later a diagnosis of diphtheria was made and the patient was given antitoxin. There were gait disturbances and parasthesias which preceded a tonsillectomy done within the next month, and tonsillectomy in turn was followed by nasal regurgitation. Two months after the onset of sore throat the patient was discharged to duty. Gait disturbances were marked on discharge from the hospital, but in the hospital replacement depot this disturbance was attributed to drinking, and the patient was sent to Anzio whence he was evacuated to a general hospital. On admission to the general hospital on June 15, there was marked ataxia of gait, the patient walked on a broad base, there was a positive Rhomberg, and moderate ataxia of hands. There was loss of position sense in fingers and toes and a spotty stocking-



glove sensory loss to elbows and knees. All deep-tendon and periosteal reflexes were absent. Superficial reflexes were equal and active. There was moderate nasal speech. On June 16, spinal fluid examination revealed 271 milligrams per cent of protein with nine cells. This was some ten weeks after onset of sore throat. A week later, spinal fluid examination revealed 217 milligrams per cent of protein with two cells.

8. (62) A twenty-six-year-old soldier was considered to have diphtheria in February, 1944, and was given antitoxin. Thereafter he had some blurring of vision, but no other recognized complications. Six months later, in mid-August, he was admitted with a severe sore throat which was again considered to be diphtheria, and he was given antitoxin. He was discharged four weeks after administration of antitoxin, but felt weak and tired very easily, and two weeks later was rehospitalized with a tentative diagnosis of hepatitis. However, this diagnosis was not established, and as the patient apparently improved, he was sent to the conditioning ward about the end of October. In mid-November, however, he began to have numbness and tingling of the hands and feet and weakness progressed. At the same time he had "an acute tonsillitis." At this time deep tendon reflexes were absent, superficial reflexes were normal. Gait was ataxic and there was weakness of the extremities with a stocking-glove anesthesia. By December 10 he had shown considerable improvement except for weakness of the arm. On November 21, spinal fluid examination revealed a protein of 94.2 milligrams per cent with two cells, and on December 13, 103.2 milligrams per cent of protein with no cells.

9. (67) A thirty-one-year-old soldier was hospitalized on October 25 because of sore throat for one day. Culture was positive for diphtheria, and he was given 120,000 units of antitoxin and placed on penicillin. On November 19, though no neurological signs or symptoms had been evident, a spinal fluid examination was done and revealed no cells and 50 milligrams per cent

of protein. He apparently responded well to therapy, but on December 5, forty days after the onset of the sore throat, the patient developed nasal speech and regurgitation and paresthesias in the tongue. The left palate was notably weak, and two days later he developed some visual blurring. On December 9, it was noted that the patient was weak, but nasal regurgitation had improved. Thereafter the left fingers began to tingle and his left great toe became numb. Paresthesias progressed and involved both hands and feet. Difficulties in accommodation lasted only a week. Deep tendon reflexes were lost; superficial reflexes were maintained. Throat culture was positive intermittently, and on December 30 a membrane returned. Spinal fluid on December 5 revealed six cells and 104 milligrams per cent of protein. One month later there were no cells and 150 milligrams per cent of protein.

10. (138) A twenty-one-year-old pilot developed a moderately severe sore throat on March 13. Diagnosis of diphtheria was made and he was promptly given antitoxin. He was subsequently treated with penicillin and discharged to duty one month after the onset of the sore throat. Three days after discharge to duty he noted paresthesias of fingers and toes with progressive weakness of the extremities and blurring of vision, and two months after the onset of sore throat he was rehospitalized. At this time he showed an ataxic gait with reverse Argyle-Robertson pupils, depression of reflexes, and a stocking-glove sensory loss. On May 22, spinal fluid examination revealed no cells and a spinal fluid protein of 126 milligrams per cent. At that time he showed apparent improvement, but there were still evidences of ataxia, weakness, depression of superficial and deep reflexes, a positive Babinski on the left, positive Romberg, ataxic gait, weakness of accommodation.

It will be noted that alteration of spinal fluid protein without increase in cells is frequently observed and consecutive spinal fluid examinations show, it is believed, a



relationship of this hyperalbuminosis to the course of illness. This relationship is further illustrated by the following scattergrams which were prepared at the time that this writer's series comprised only 119 cases. The scattergrams designed to show the temporal relationship of spinal fluid protein content to onset of neurological signs and symptoms and to the onset of cutaneous or faucial diphtheria. Successive spinal fluid determinations are important, since a single examination does not reflect the degree of hyperalbuminosis which may exist during the illness.

Figure 1 is based on 217 spinal fluid protein determinations in seventy cases. It relates as closely as possible the determinations of protein in the spinal fluid to the time when nervous tissue injury first became evident. A single dot represents one determination when only one determination was made. When successive determinations were done, the findings in each case are joined by a line indicating the alteration of spinal protein fluid content on successive examinations in that particular case. Figure 1 is not related to prodromata.

Figure 2 is based on eighty-five spinal fluid protein determinations in thirty-five cases. It relates these findings to the onset of sore throat, whether recognized and treated as diphtheria, or simply recorded as a prodromal observation which may or may not be interpreted as unrecognized and untreated diphtheria.

Figure 3 is based on thirty-five spinal fluid protein determinations in sixteen cases. It relates spinal fluid protein observations to the interval elapsing in recognized and treated diphtheria.

To Figures 2 and 3 have been added seventeen protein determinations in sixteen cases of convalescent diphtheria, believed uncomplicated by nervous system disease at the time of determination of protein in the cerebrospinal fluid. These are indicated by a cross (+). Two of these cases developed subsequent neurological diseases. Superimposition of the successive findings in any one case recorded in Figures 2 and 3 upon the findings recorded in Figure 1 will

relate the sore throat and/or diphtheria to the onset of neurological signs and symptoms.

#### SUMMARY

Mention has been made of the rising tide of diphtheria on the continent of Europe, now amounting to some million cases a year and representing the leading epidemic disease of war on the European continent both as a cause of morbidity and mortality. Reference has been made to the difficulties encountered in the diagnosis of diphtheria in the adult and evidence has been presented to show that a considerable percentage of the American male population as represented by troops ready for embarkation overseas are susceptible to diphtheria. On the basis of clinical data drawn from 155 cases, diagnosed variously as Guillian-Barre's disease, infectious polyneuritis, myeloradiculitis, and postdiphtheritic polyneuritis, it has been reported by the writer that ninety of these cases, where critical evaluation was possible, represented postdiphtheritic polyneuritis. Ten of these cases have been presented in brief outline to represent the difficulties of diagnosis, the variety of neurological findings observed, the delay in neurological manifestation, the prolonged course of the polyneuritis, and the frequency of albumino-cytologic dissociation in postdiphtheritic polyneuritis.

Three scattergrams based on 234 spinal fluid protein determinations in eighty-six cases have been presented. One of these relates spinal fluid protein alterations to onset of neurological signs and symptoms. A second one relates such determinations to the onset of sore throat, whether recognized as diphtheria or simply recorded as a prodromal observation. Another scattergram relates spinal fluid protein determinations to the interval elapsing in recognized and treated diphtheria cases.

#### CONCLUSIONS

1. Diphtheria is prevalent in epidemic form on the continent of Europe.
2. The course of diphtheria is atypical and diphtheria is followed by an unusual number of neurological complications which

may develop weeks after the onset of diphtheria and persist for several months.

3. Neurological complications of diphtheria are frequently associated with an albumino-cytologic dissociation. The hyperalbuminosis of the spinal fluid varies considerably in any case. Consecutive spinal fluid protein determinations to some extent reflect the seriousness of the illness and offers, it is believed, some prognostic aid.

4. This albumino-cytologic dissociation has led to the reporting of cases of post-diphtheritic polyneuritis as Guillian-Barre's disease, thereby masking the incidence of diphtheria.

5. Sixty-six per cent of the cases of post-diphtheritic polyneuritis were not recognized or treated as diphtheria until after the onset of neurological complications.

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#### DISCUSSION

DR. JOHN M. LEE (Nashville): Mr. Chairman and gentlemen of the Society. I think we owe a debt to Dr. Johnson for presenting this very interesting subject.

His paper presents several problems that should give us serious consideration. You all recall the reports in the medical literature as to the increased incidence of diphtheria in continental Europe prior to the war. War conditions favored the dissemination of this infection, and we find this report as one of the results.

The incidence of the disease in the different countries is rather interesting. Whereas there was an increase in diphtheria in continental Europe prior to and during the war, in England and Wales there was a prolongation of a gradual decline of incidence in those countries which had existed for several years prior to the war. That is explained by some on the basis that the children when evacuated from London were all given diphtheria immunization.

In this country we have shown no great change in incidence of diphtheria until during the past year. In Tennessee there has been an increase. The figures reported for 1940 show 335 cases of diphtheria in Tennessee; in 1941, 495; in 1942, 360; in 1943, 394; in 1944, 328; in 1945, 450 cases, approximately. That last number is not final. During the past season, therefore, there has been a slight increase. Whether there is any connection between the increase of the disease in Tennessee and contact with soldiers and prisoners of war from Europe, we do not know. It is a warning to us that we must not let up in our efforts to prevent the disease.

The diagnosis of diphtheria is not easy; especially is it difficult in adults. Through repeated subclinical infections in early life, adults have a certain amount of tolerance for the disease. Consequently, the manifestations are likely to be atypical, and as such they are not recognized.

We have long known that the polyneuritis following diphtheria came in the cases that received treatment late, and the report made by Dr. Johnson is in a sense covering conditions existing in Europe at the time of his observations.

Even in children the diagnosis of diphtheria is difficult. We recently saw a marked example of that and lost a patient. The child had enormous swelling about the neck—the old-fashioned bull-neck diphtheria. There was no membrane visible on the tonsils or pharynx because the pharynx was covered over and completely hidden by the swelling. He was given antitoxin as soon as a

positive culture was obtained; that was twenty-four hours after we first saw him.

The diphtheria subsided, and as the swelling in the tonsillar region subsided the pharynx was found to be completely covered with a typical diphtheritic membrane. The child died on the twelfth day, apparently from myocardial degeneration.

The observations made by Doctor Johnson in these cases, polyneuritic disturbance following diphtheria, are very interesting. As he has stated, we have long known that there was an increase in protein in the spinal fluid in these cases of post-diphtheritic polyneuritis. There is no increase in the number of spinal cells, as you all know.

I was particularly struck with the findings that he reported in those cases free of symptoms of neuritis. As far as I know, in the brief time I have had to look up the subject, there are no similar findings reported. Perhaps there may be, but I did not find them in the few days I had to look them up.

It is probable that if this particular phase of his study is continued, we will find that many of the cases of diphtheria, particularly those which are late in receiving treatment, or which are not recognized, will show increased protein in the spinal fluid to a greater extent than we have realized. It is probable that this indicates a mild involvement of the nervous system that is not sufficient to produce symptoms.

We are almost getting complacent about the diphtheria problem in some communities, relying on the statement of Doctor Rosenau to the effect that we have effective prophylactic measures, and I hope that this excellent report by Dr. Johnson will serve to stimulate us to a new interest in the prevention of the disease. (Applause.)

DR. E. B. CLARK (Sparta): Mr. Chairman and gentlemen: I enjoyed this paper very much. Diphtheria is a very serious disease, as we all know. I just came up here to ask Doctor Johnson, in his closing remarks, to state just how he handled the case in the second attack. You reported a case, Doctor, that had diphtheria definitely diagnosed twice, and I would like to have you tell what precautions you took in giving the antitoxin, and so on, in the treatment. Thank you.

DR. JOE W. JOHNSON, JR.: I want to thank Doctor Lee and Doctor Clark. In regard to the early treatment of diphtheria, he is correct, I believe; however, I think the experience on the Continent in the past two years has shown that a very significant number of men, in spite of early and

prompt treatment, continued to develop the signs of polyneuritis.

The incidence of polyneuritic complications is high and, in spite of antitoxin, is unusually high. A series of our fliers shot down over Roumania developed polyneuritis while in a Roumanian prison camp. They were given prompt treatment with antitoxin. Nonetheless, an unusually high number of those men came down with polyneuritis.

Some of us have felt that vitamin deficiencies, resulting from the conditions under which these men were living, played a role, and I do not think we can look upon the toxin alone as being responsible. There are other factors of fever and sulfonamide therapy which also enter into the total picture.

To me it is very striking that, in spite of the fact that these men have the antitoxin released in the blood and absorbed by the nervous system, weeks and even months may pass before they develop symptoms.

I would like to offer one question in regard to patients who are convalescing from diphtheria, that is, whether consecutive spinal fluid protein determinations may offer us any prognostic help. When we did such determinations prior to the onset of recognized neurological complications, elevation of protein content was not infrequently observed, but I cannot say on the basis of my experience whether a protein of seventy in such a case will herald further elevation of the spinal fluid protein and symptomatic neuritis.

I am sure of one thing, however, that a single determination of the spinal fluid is not as significant as consecutive examinations of the spinal fluid protein, and it seems very likely that postdiphtheritic polyneuritis is frequently radiculo-neuritis or even a myelo-radiculo-neuritis.

In regard to Doctor Clark's question as to how the diphtheria was handled in the second attack, I saw these cases while serving as a neuropsychiatrist. I saw them, primarily, that is, as a neurologist. In so seeing them they had usually been treated weeks or months before by other physicians, and I had to have recourse to such records as were available in the surgeon's office at Caserta. So I am not able to say what precautions were taken in regard to giving this man antitoxin in August when he had previously been given antitoxin in February. I regret that I cannot give you that information.

Thank you very much.



# THE JOURNAL

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W. M. HARDY, M.D., Editor and Secretary

APRIL 1947

## EDITORIAL

### NATUROPATHY IN TENNESSEE

In 1943 the Seventy-Third General Assembly of Tennessee legalized the practice of naturopathy. In this bill naturopathy was defined, "the prevention, diagnosis, and treatment of human injuries, ailments, and diseases by means of any one or more of the psychological, physical, mechanical, chemical, or material forces or agencies of nature."

A careful study of this definition shows that the naturopathic "doctors" could use all *natural* means and agents in their practice. Only the supernatural was barred. However, the Act established a Naturopathic Examining Board. The Board proceeded immediately to perform supernatural feats by making "doctors" out of ignorant and untrained quacks.

A mimeographed letter signed by one member of the Board was broadcast telling "doctors" et al. of the Tennessee law. In no time the state was filled with fly-by-night "healers." In about four months after the passage of the law, a convention was held at the Maxwell House in Nashville. All who had "practiced" in Tennessee joined (by paying dues) the Association. All members of the Association (by paying the fee) were given license.

"According to a keen newspaper reporter, Morris Cunningham of the *Commercial*

*Appeal*, Memphis, who had for several months sensed that 'something was rotten in Denmark,' there were issued hundreds of licenses with the rapidity of handing out tickets to a banquet. The actual number of licenses during that one night saturnalia, where truth and honesty were casualties, will probably never be known except to the greedy Molochs into whose itching paws the simoleons were tossed with reckless abandon by the ignorant, untrained, but likewise rapacious pretenders. Mr. Cunningham's estimate was that about fifteen hundred were recipients of Tennessee license.

"The ill-advised 'naturopathic act' had enabled a ruthless 'Board' to set up an assembly line diploma and license mill."

By 1945 it became apparent that something should be done to curb the activities of the "healers." So the original act was amended by forcing all newcomers to pass the Basic Science Board before appearing before the Naturopathic Board.

The practice of naturopathy was limited also by amending the original act. The amendment reads: "Naturopathy . . . is defined as prevention, diagnosis, and treatment of human injuries, ailments, and diseases by the use of such natural forces as air, light, water, vibration, heat, electricity, hydrotherapy, psychotherapy, dietetics, or massage, and the administration of biological and botanical, but shall not include the administration of narcotics, sulfa drugs, or other toxic drugs, or powerful physical agents, such as X-ray and radium therapy, or surgery, the "minor matters" mentioned in Section 12 of this Act to be construed as not including tonsillectomy, the opening of the thoracic or abdominal cavities or other major operations requiring an incision."

These two amendments were passed by the legislature and by-passed by the naturopaths. The first one by dating licenses prior to the effective date of the Act and the second by ignoring its existence.

In due time, however, the magnitude of "Crime of the 1943 Legislature" became so apparent that all naturopathic laws were wiped off the statute books of Tennessee by the 1947 session.

## DEATHS

EZRA GECOVIA MAXWELL, M.D.

Ezra Gecovia Maxwell, M.D., Lexington; University of Tennessee, Nashville, 1900; aged sixty-eight; died March 20, 1947, following a long illness.

OTIS W. FESMIRE, M.D.

Otis W. Fesmire, M.D., Atwood; University of Tennessee, School of Medicine, Nashville, 1905; aged seventy-two; died suddenly March 30, 1947.

## RESOLUTIONS

*Whereas*, it has pleased our heavenly Father, in his infinite wisdom, to remove from our midst Dr. J. B. Shoun on January 14, 1947, who was for many years one of Elizabethton's leading physicians, we the members of Washington, Carter, and Unicoi County Medical Society, bow in submission to the will of him who doeth all things well; but,

*Whereas*, Dr. Shoun was our beloved associate and enthusiastic and loyal visitor at the Tri-County Medical Society meetings over a period of many years and a consecrated Christian man whose influence for good was brought to bear directly and indirectly upon the lives of thousands of men and women, we express our heartfelt regret at his loss and order that a copy of this resolution be placed upon the records of this Society, and that a copy be transmitted to Dr. Shoun's surviving relatives, to whom we express our deepest sympathy in their sorrow, and that a copy be forwarded to the Secretary of the Tennessee State Medical Association for publication. Done this 20th day of January, 1947.

JOHN L. HANKINS, M.D.,  
ROBERT H. HARVEY, M.D.,  
E. T. PEARSON, M.D.

*Whereas*, on February 26, 1947, God in

his infinite wisdom saw fit to call our beloved friend and fellow member, Dr. George Alexander Brandon, to the reward which his years of outstanding and unselfish service as a Christian, a citizen, and physician so thoroughly merited; and

*Whereas*, for the past forty-six years Dr. Brandon endeared himself to the citizens of his community and the members of his profession by generously giving of his time and ability in the promotion of the best interest of his community, the advancement of the medical profession, and contributed to the practice of medicine in an efficient and ethical manner, having served as vice-president of his Society; and

*Whereas*, in Dr. Brandon was embodied the qualities of a true Christian, a loving husband and father, a leader in every undertaking which furthered the interest of his community and its citizens, a man of honor who was respected by all who knew him, and one who was ever sensitive to his duties and obligations as a loyal friend and an able physician; and

*Whereas*, all who knew him mourn his loss and the members of his Medical Society are deeply grieved at his passing; therefore

*Be It Resolved*, that we pay this deserving tribute to him, that we send to his family a copy of these resolutions of respect, and that a copy be spread upon the minutes of this Association.

JOHN C. PEARCE, M.D., *Chairman*;  
BAKER HUBBARD, M.D.,  
R. M. CONGER, M.D.

## AND WE QUOTE

### IT'S A PUBLIC LOSS

Nashville, proud and appreciative of the part its own medical fraternity has played in service rendered by the American Medical Association, doubly regrets the inability of Dr. Olin West to accept the presidency of that organization, to which he was elected for its forthcoming official year.

For more than a third of his seventy-two

years, Dr. West has brilliantly served the Association as secretary-general manager; a record meriting, certainly, this crowning honor. But ill-health, in his judgment, forbids, and the A. M. A. bows to his decision. Dr. Harrison H. Shoulders, Nashvillean and incumbent president, expresses the sentiments of both this community and the A. M. A. in his tribute to this distinguished colleague.

Medical enlightenment and medical service have been greatly enhanced through the career of Dr. West, dedicated to both. The field of education in medicine is the richer for his gifted leadership, invested for fifteen years at the Vanderbilt University School of Medicine. By his faithful service, the national organization has benefited, and through it the nation.

The caliber of leadership afforded A. M. A. has done much to combat the threatened inroads of political or socialized medicine, against which there must be a continuing, ceaseless fight. Dr. Shoulders has advanced that fight, and Dr. West could have carried it on from there. The nation's hope and trust—and the likelihood, all things considered—is that Dr. Bortz, now the president-designate, will carry it on as duty prompts.—*Nashville Banner*.

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#### JANE TODD CRAWFORD STUDENT LOAN FUND IN GYNECOLOGY

On Christmas Day, 1809, a hundred and thirty-seven years ago, a backwoods physician in his home in Danville, Kentucky, successfully removed a large ovarian cyst without anesthesia or antisepsis, thus making his own name and that of his patient immortal. Ephraim McDowell thus paved the way for modern abdominal surgery and gynecology. Jane Todd Crawford, the patient, by her bravery has become a symbol of heroism.

Very fittingly the Woman's Auxiliary to the Southern Medical Association has established a loan fund for young southern physicians wishing to pursue the study of gynecology. The requirements are simple: he or she must not be over thirty-two, of

good character, and showing evidence of being capable of absorbing adequate knowledge.

The loan, of course, must be returned in small installments after completion of the study.

This would seem to be a rare opportunity, for example, for a bright young resident finishing a service to strengthen the weak spots in his training, or to familiarize himself more fully in tissue pathology, the vaginal and cervical smear cytologic detection of fundal or cervical cancer, irradiation in cancer, the technics of the more radical panhysterectomies for cancer, endocrinology, sterility diagnosis and treatment, or intensive review of the anatomy of the pelvis and perineum.

Several branches of this Auxiliary in the past have offered medical loan scholarships for undergraduates in medicine. But this seems to be the first postgraduate scholarship under the Woman's Auxiliary sponsorship.

Teachers of gynecology should pass this information on to their students.

Inquiries may be addressed to Mrs. J. Ullman Reaves, 1862 Government Street, Mobile 18, Alabama.—*Journal of the Southern Medical Association*.

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#### THE AMERICAN CONGRESS OF PHYSICAL MEDICINE

The American Congress of Physical Medicine will hold its twenty-fifth annual scientific and clinical session September 2, 3, 4, 5, and 6, inclusive, at the Hotel Radisson, Minneapolis. Scientific and clinical sessions will be given the days of September 3, 4, 5, and 6. All sessions will be open to members of the medical profession in good standing with the American Medical Association. In addition to the scientific sessions, the annual instruction courses will be held September 2, 3, 4, and 5. These courses will be open to physicians and the therapists registered with the American Registry of Physical Therapy Technicians. For information concerning the convention and the instruc-



tion course, address the American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

#### HIATUS IN SICKNESS INSURANCE

##### *Favorable Evidence or Praise Found Lacking in Areas Where System Is Adopted*

There is one big hiatus in the testimony presented to the recent congressional committee investigating compulsory sickness insurance and in all the mass of arguments offered by its proponents in the press and over the radio. Although we are told over and over that more than thirty nations now have such systems, no favorable evidence drawn from the working of such systems is ever presented. No unprejudiced visitor returns from any of these systems with praise for its operations or vital statistics of its accomplishments in improving the health of the people insured.

Reports of the British health organizations are never quoted to show the medical service has been improved.

Germany has been prolific in statistics of the operation of compulsory insurance, but none of the data ever claim to show that sickness has grown less or that absence from work due to sickness has declined during more than half a century of insurance. If these reports were ever presented, they would show a continuous increase in sickness during the life of these systems.

Many statements are available from the vital statistics of these and other countries under insurance showing that the combination of cash payment for a sickness which must be treated without cost to the patient if he is to be paid the cash removes the "will to get well."

Statistics of the Leipsig Krankencassen, the largest sickness insurance society in the world, evidence that the average day's sickness per member annually increased from 10.01 in 1887 to 1905 to 19.35 in 1928 to 1930. Similar increases under compulsory systems in Britain, Austria, and other nations testify that this increase is due to the existence of compulsory insurance and not to any national peculiarities.

This conclusion is further confirmed when such nations as the United States,

Australia, and Canada, without insurance, have shown an opposite trend.

This increase of sickness has been shown to be a direct result of compulsory insurance. While the worker is well he must pay for medical care, but he is paid for the time he is reported ill. So sickness rises and falls in amount with economics rather than with pathological changes. It rises with the depression and falls off as employment increases.

Dr. A. B. Walker, Regional Medical Officer of the Department of Health for Scotland, discussing the National Insurance Act, said: "It was reasonable to hope that the act, together with the improved environmental services, by providing early and effective treatment, would have some effect not only in diminishing the amount and duration of disabling illness but also an important preventive element." On the contrary, he found that not only the number of cases of illness but their average duration had increased.

Although most of those who favor compulsory sickness insurance in the United States never seem to have heard of the existence of such a problem in systems like that proposed here, any examination of the existing systems would show a mass of heated discussion of this problem. But no solution can receive much consideration while political and economic causes of "sickness" dominate the situation. Politicians know, though they are reluctant to admit it, that the real attraction of sickness insurance is the cash payments and not the medical care, and they adjust their attitudes to fit that fact.—A. M. Simons, *Christian Science Monitor*.

#### NEWS NOTES AND COMMENTS

Dr. Guy M. Maness announces removal of his office to 411 Bennie-Dillon Building, Nashville, for the practice of otolaryngology and endoscopy.

Dr. John R. Smoot announces the removal of offices to Medical Arts Building, Knox-

ville, for the practice of dermatology and syphilology.

Announcement is made of the opening of the Prosser Hill Sanatorium, Prosser Road, Knoxville, Tennessee, for mild nervous and mental diseases, acute and chronic alcoholism, penicillin and similar therapy, electric shock therapy for depressions. Dr. Herbert L. Pope, medical director, and C. L. Kaelber, superintendent.

## MEDICAL SOCIETIES

### CONSOLIDATED MEDICAL ASSEMBLY OF WEST TENNESSEE

The Consolidated Medical Assembly of West Tennessee met in regular dinner-business meeting recently in the New Southern Hotel at 6:30 P.M. and heard a lecture from Dr. R. N. Buchanan, Jr., of Nashville, who spoke on the subject, "The Use and Abuse of the Newer Drugs in Dermatology."

Following Dr. Buchanan's address, which was illustrated with lantern slides, the meeting was opened for questions and discussions on the points made by the speaker.

Dr. C. M. Hamilton, president of the Tennessee Medical Association, had been scheduled to present a paper on "The Distribution of Medical Care in Tennessee," but was ill and unable to appear before the group.

The fifty-three members and guests were presented a film on "Pentothal Sodium" by representatives of Abbott Laboratories.

Resolutions on the recent death adopted by the members, after presentation by Dr. John C. Pearce, chairman, Dr. Baker Hubbard, and Dr. R. M. Conger.

The assembly also heard a report on the deaths of Dr. E. G. Maxwell of Lexington and Dr. Otis Fesmire of Atwood.

Dr. Pearce's resignation as chairman of the resolutions committee was accepted, and Dr. Leland Johnston was named in his place.

The group voted to suspend scientific meetings during the months of July and

August. During these months meetings will be held, but they will feature barbecue dinners in keeping with past customs. An earlier barbecue dinner will be given the assembly by Dr. John Morris of Somerville on June 26 at Shiloh National Park.

Dr. Hermon Hawkins was welcomed back into the assembly after an absence because of illness.

The meeting was presided over by Dr. Cornelia Huntsman of Lexington, with Dr. S. M. Herron serving as secretary.

### *Davidson County:*

March 11: "The Estrogenic Treatment of Bladder Tumors—A Preliminary Report," by Drs. Owsley Grant and Robert Lich, Jr., Louisville, Kentucky.

March 25: "Wound Disruption and Early Ambulation," by Dr. C. F. Bradley. Discussion by Drs. Cleo Miller and James A. Kirtley, Jr.

April 1: Mr. Hilary H. Osborn, an attorney and tax expert, discussed "Income Taxes and the Reeves Bill" (H. R. Bill No. 1759).

### *Knox County:*

April 1: "Carcinoma of the Prostate," by Dr. Park Nicely. Discussion by Drs. J. B. Neil and G. A. Williamson.

### *Sullivan-Johnson County Medical Society:*

The Sullivan-Johnson County Medical Society held its regular meeting at the Kingsport Inn, Kingsport, Tennessee, April 2.

Dinner was served at 7:00 P.M.

Meeting was called to order by Dr. Nat Copenhaver. Minutes of the previous meeting were read and approved. Dr. Paul Cox made a motion to send flowers to Dr. G. G. Keener at the Fort Sanders Hospital, Knoxville, Tennessee. The motion was seconded by Dr. T. B. Yancey and unanimously carried.

A committee was appointed to investigate group insurance for the Sullivan-Johnson County Medical Society. Drs. J. E. Williams and D. D. Vance were appointed on this committee, and they are to report their findings at the next meeting.

A Resolution Committee was appointed in behalf of Dr. Childers of Kingsport. Drs. W. H. Reed and T. B. Yancey are to serve on this committee.

The scientific program was given by Dr. A. H. Lancaster of Knoxville. The subject was "Contact Dermatitis." The meeting was both scientific and humorous.

There being no further business, the meeting adjourned.

HARLIS O. BOLLING, M.D.,  
*Secretary-Treasurer.*

#### *Tri-County Medical Society:*

The Washington-Carter-Unicoi County Medical Society held their regular monthly meeting at the Franklin Club in Elizabethton. Thursday night, April 3. There were fifty-six members and guests present, including doctors from Bristol, Kingsport, Maryville, Greeneville, and Knoxville.

Dr. Gabriel Tucker, Director of Bronchoscopy of the University of Pennsylvania Hospital, was the guest speaker. The title of his paper was "Diagnosis and Treatment of Benign and Malignant Lesions of the Larynx," which were beautifully illustrated with colored movies of the larynx and vocal cords, showing the various tumors of this region and operative techniques. These movies showed the vocal cords in action and also showed patients before and after operative treatment.

W. D. HANKINS, M.D.,  
*Secretary-Treasurer.*

keys were injected with various combinations of the ovarian hormones. Endometrial vascular phenomena were observed by means of intraocular endometrial transplants, and these observations were correlated with observations on uterine bleeding. One hundred seven cycles of uterine bleeding were produced, one-thirteenth per monkey. Analysis of the results of each experiment in relation to treatment administered in previous experiments in the same animal revealed that (1) permanent changes in the structure of the endometrial vascular bed may result from stimulation by the ovarian hormones and (2) the architecture of the endometrial vascular bed at the beginning of any course of treatment with ovarian hormones exerts an important influence upon the uterine bleeding produced by that course of treatment.

It was shown previously that the duration of uterine bleeding is influenced by the components and relative strength of the current hormonal stimulus. Results described in this report indicate that the duration of uterine bleeding is also influenced by hormonal stimuli acting in previous cycles.

This paper was discussed by Dr. John Burch.

3. "The Analysis of Biological Mixtures by Fractional Extractions." By Dr. Milton Bush.

This paper was discussed by Drs. C. S. Robinson and Cobb Pilcher.

## OTHER MEDICAL SOCIETIES

### ABSTRACTS OF PAPERS PRESENTED AT VANDERBILT MEDICAL SOCIETY, MARCH 7, 1947

1. Case Report: "Tetanus Treated with Curare." By Dr. Lawrence A. Grossman.

This paper was discussed by Drs. B. H. Robbins and Edgar Jones.

2. "Correlation of Endometrial Vascular Structure with Uterine Bleeding." By Dr. Doris Phelps.

To obtain information concerning mechanisms involved in the production of menstrual abnormalities, ovariectomized mon-

## ABSTRACTS OF CURRENT LITERATURE

### ANESTHESIA

By H. M. AUSHERMAN, M.D.  
Medical Arts Building, Chattanooga

Some Systemic Disturbances Occurring During Spinal Anesthesia. D. A. Davis. Southern Medical Journal, March, 1947.

Spinal anesthesia provides certain operating conditions unequaled by other anesthetic agents. But spinal anesthesia alone often produces such severe systemic disturbances that it must often be denied to those patients whom it might benefit most.



Investigation of the physiological disturbances occurring during spinal anesthesia presents certain difficulties due to inadequate knowledge of the peripheral vascular bed and its control, transfer of data from experimental animals to humans, the close interrelation of the different organ systems, and variations in individual responses.

When a local anesthetic is put into the subarachnoid space the nerve roots and superficial portion of the cord are penetrated. Autonomic paralysis is probably more widespread than sensory and motor paralysis. These disturbances in physiology appear in five to twenty minutes and are due to paralysis of the nerve roots, and the degree of physiological disturbance depends largely on the height of anesthesia. The fibers of the vagus nerve remain intact and exercise their influences.

With modern drugs and careful technic little change occurs in the central nervous system.

Respiratory failure is a common cause of death due to spinal anesthesia. With intercostal paralysis the diaphragm alone must maintain respiration, but this structure may be inadequate in cases with increased intra-abdominal pressure such as ascites, intestinal obstruction, and pregnancy. Respiratory failure may follow a sudden drop in blood pressure. Respiratory paralysis can take place gradually due to diffusion of the drug, and patients should be watched very carefully.

Nausea is due to a decreased blood flow through the medulla and relieved by raising the blood pressure or by oxygen. Heavily premedicated patients are more susceptible to respiratory paralysis. Venous return to the heart is decreased and cardiac output is lowered by intercostal paralysis.

The most striking alterations in physiology are found in the cardiovascular system. Cardiac slowing may be due to blockage of sympathetic cardio-accelerator fibers. About seventy per cent of cases show a fall in blood pressure. This is due to a number of factors: (1) sympathetic paralysis with loss of tone of the peripheral vessels; (2) abolition of the carotid sinus mechanism in the anesthetized areas; (3) muscular flaccidity with venous stagnation; (4) upset in the relationship of intra-abdominal and intrathoracic pressures with slowing of venous return to the heart; (5) depression of respiration.

Changes in the abdominal viscera are due to absence of sympathetic stimuli with a resultant predominance of the vagus nerves.

The intestines are contracted and peristalsis is present. Cases of perforation of a dilated bowel have been reported due to spinal anesthesia.

Pain due to traction on abdominal viscera is often present. The pathways involved in transmission of this pain are not clear.

The normal spleen is dilated to four or five times its normal size and packed with red cells.

Production of epinephrine by the adrenal glands ceases.

The function of the kidneys is not altered by spinal anesthesia.

The bladder musculature is paralyzed and over distension with loss of tone may occur.

The pain of uterine contractions is abolished by blockage of nerves below the tenth dorsal segment. The tone of the uterus is maintained and spinal anesthesia is useless when uterine relaxation is desired.

The splincters are completely paralyzed by spinal anesthesia.

The circulating fluid balance is changed very little, and there is little comparison between the hypotension due to spinal anesthesia and "surgical shock."

## CARDIOLOGY

By J. ALLEN KENNEDY, M.D.

Bennie-Dillon Building, Nashville

Essential Hypertension: Present Status of the Problem.

Robert W. Wilkins. Medical Clinics of North America, pp. 1079-1089, September, 1946.

While no one denies that renal abnormalities may produce arterial hypertension, it is now agreed by most students of the disease that typical essential hypertension is usually not accompanied early in its course by significant disturbances of the kidney.

Family histories and statistical studies of large groups of cases leave little doubt that heredity and constitutional factors play an important role in the incidence of hypertension.

During the past five years evaluation of large groups of patients have clarified the prognosis of the disease. Statistically, the higher the blood pressure, either systolic or diastolic, the worse is the prognosis. The degree of elevation of the blood pressure is especially helpful in indicating the danger of intracranial vascular accidents which cause approximately forty per cent of the total deaths from hypertension. The size of the heart, especially of the left ventricle, is an important prognostic sign, since about forty per cent of all hypertensive patients die of cardiac causes. The appearance of vascular disturbances in the retina is well correlated with the incidence of the hypertensive patients dying with uremia which causes somewhat less than ten per cent of deaths. The amount of physical exertion and emotional activity is an important consideration. Obesity predisposes to vascular disease especially to arteriosclerosis. The rate of progression of the disease is the most important single aid in prognosis.

### MODERN TREATMENT OF HYPERTENSION

1. *Psychotherapy.* It is necessary for both the doctor and the patient to face frankly the emotional factor of the patient's fear of his disease. The judicious use of sedatives is recommended, especially the barbiturates. This alone will usually

lower the blood pressure, probably by decreasing the emotional tension.

2. *Regulation of the patient's routine.* The patient is reassured by having his doctor take the responsibility for prescribing the amount of exercise, rest, sleep, diet, and other details of the daily routine. It should be stressed that the patient live as normal a life as possible.

3. *Depressor procedures.* The most important is bed rest at home or in a hospital. Dehydration with salt restriction sometimes is highly effective. The use of thiocyanate should be restricted to those circumstances where the blood levels of the drug can be routinely followed. The nitrates should be used with great caution, as they are capable of causing acute collapse. Biological substances and extracts such as kidney extracts are still in the experimental stages and are not yet ready for clinical use.

4. *Sympathectomy.* Surgical sympathectomy in carefully selected patients, especially those under fifty years of age, is very effective. In general, young hyperreactive patients whose basal blood pressure does not exceed 200 to 150 do better following surgical sympathectomy.

5. *Cardiac therapy.* Congestive heart failure should be treated by suitable measures just as heart failure from any other cause.

6. *Symptomatic treatment.* The remainder of the treatment of the hypertensive patient should be with the ordinary agents depending upon the complaints. Menopausal symptoms should be watched for. The author does not discourage the use of alcohol in moderate amounts.

Tobacco is usually eliminated.

## INDUSTRIAL MEDICINE

By JEAN SPENCER FELTON, M.D.  
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Nutrition and Capacity for Work. Ancel Keys, Ph.D.  
Occupational Medicine, Vol. 2, p. 536, December, 1946.

Dr. Keys, Director of the Laboratory of Physiological Hygiene at the University of Minnesota, has attempted to demonstrate the relationship between job productivity and the worker's state of nutrition. The best nutrition is that state in which nutritional factors are not limited for all types of human performance, including industrial work. Industry's problem is to increase or at least maintain productivity. The attention given the human element, the worker, has not kept pace with the technological development of the machine, and nutrition is a leading influencing factor in the worker.

Individuals rarely reach their maximal performance (real capacity) in work, and rarely are their limits of intelligence or senses approached. A worker wants a high working capacity or "fitness,"

even though his primary concern may not be with productivity. Bad nutrition influences human functions differently. A short period of fast imposes a greater strain on the circulation than on respiration. It does not affect the speed of small movements of the hands, but steadiness and coordination deteriorate. In acute athiaminosis there is a profound deterioration of coordination, with little circulatory effect, as with a caloric deficiency. Strength diminished only with prolonged semistarvation. Any discussion of the relationship of nutrition to working capacity, therefore, must delineate sharply the exact nutritional and work conditions involved.

Impaired nutrition rarely effects the special senses, and whereas strength is resistant, endurance will be effected quickly. Intellectual factors tend to be more stable than often supposed, for serious physiologic and biochemical derangement will precede any real loss in mental ability. Motivation, or "morale," is one aspect of the general complex of personality, and whereas basic personality is relatively stable, the sense of well-being and immediate outlook are certainly sensitive to diet. Industry offers many challenging nutritional situations, i.e.: (1) the first and most obvious task is the discovery and repair of real nutritional deficiencies; (2) the addition of large amounts of vitamins to what now passes for ordinary fairly good diets may result in better health, capacity, and productivity; (3) special jobs or industrial situations demand special dietaries; (4) a good total diet, calculated by day or week, may be capable of better use by a changed distribution of meals. Animal experimentation has provided few data which are quantitatively applicable to man, and the substitution of enthusiasm for sober critical research in human nutrition has been deplorable. An excess of wishful thinking has been present in the many attempts to seek special health through "doping"—lecithin, phosphates, aminoacetic acid, gelatin, cola, and caffeine containing beverages, etc.

Industry, government, and labor all have responsibilities to advance knowledge on the relation between nutrition and working capacity or productivity.

(This abstract is offered, not with the hope of presenting new informative data to be applied immediately to the worker, but to point up the need for extended research in a field covered so energetically and so inaccurately by the ubiquitous pill dispensers, beverage dealers, candy suppliers, and the "one-a-dayers.")

## OBSTETRICS

By MILTON SMITH LEWIS, M.D.  
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The Fetal Risk in Breech Delivery: A Study Based on 708 Cases. H. B. Guyer and C. E. Heaton. American



Journal of Obstetrics and Gynecology, Vol. 52, pp. 362-371, 1946.

In an effort to ascertain the fetal risk inherent in breech delivery, the authors have analyzed 708 cases of primary breech delivery occurring at Bellevue Hospital over a ten-year period. The total number of deliveries during this time was 15,398, giving an incidence of breech presentation of 4.6 per cent. The methods of breech delivery are classified as spontaneous breech delivery, assisted breech delivery (assistance in delivery of shoulders and head), and breech extraction (operative interference begun before passage of breech over perineum). The last procedure is carried out only for specific indications, chiefly prolongation of the second stage.

In this series of breech deliveries there were 220 deaths, or a gross fetal mortality of thirty-one per cent. After deduction of cases with various complications (nonviable infants, premature infants, twins, prolapse of cord, maceration of fetus, congenital defects, pre-eclampsia and eclampsia, premature separation of placenta, placenta previa, hemorrhagic disease of newborn, icterus gravis, etc.), there remained 352 normal breech deliveries with sixteen fetal deaths, giving a corrected fetal mortality rate of 4.5 per cent. There were twelve fetal deaths in 163 uncomplicated primiparous breech deliveries (7.4 per cent) and four fetal deaths in 189 uncomplicated multiparous breech deliveries (2.1 per cent), showing that the fetal risk in primiparas is over three times greater than in multiparas.

Of the sixteen fetal deaths in cases of uncomplicated breech delivery, eleven, or sixty-nine per cent, showed evidence of birth injury on autopsy. Of these eleven cases, eight, or seventy-three per cent, showed evidence of slight to moderate disproportion between fetus and pelvis.

Cesarean section was performed in sixteen cases of breech presentation during the period of this study; pelvis disproportion was the indication in twelve cases. All infants delivered in this manner were discharged well from the hospital.

It is concluded that the principal way by which the fetal mortality due to breech presentation may be lowered is the recognition of cases showing slight to moderate degrees of pelvic disproportion and their treatment by elective or early cesarean section.

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Fetal Mortality in Breech Delivery. W. J. Dieckmann. American Journal of Obstetrics and Gynecology, Vol. 52, pp. 349-361, 1946.

The average gross fetal mortality in breech delivery is 7.7 per cent, corrected to 4.2 per cent, for term fetuses on five maternity services. The mortality in prematures is over twenty-five per cent. Procedures which have been suggested to decrease the mortality are external cephalic ver-

sion in all cases and elective cesarean section in primiparas at term where version fails.

The author analyzes the breech deliveries occurring at the Chicago Lying-In Hospital during the last four years. There were 524 babies weighing over 2,500 grams and eighty premature babies. The causes of death in this hospital associated with breech delivery have been prematurity, intracranial injury, and asphyxia because of inability to deliver the head (usually because of an incompletely dilated cervix). The fetal mortality was greatest in the prematures and abnormally large babies. The omission of sedative drugs, use of local anesthesia, and the ability to recognize a completely dilatable cervix are important factors in decreasing the mortality of prematures. Careful evaluation of the fetal and pelvic size and of the character of labor early enough to permit performance of a safe cesarean section may aid in reducing the mortality of babies weighing 4,000 grams or more.

The incidence of fetal injury in the present series was 2.1 per cent. Deep anesthesia, experience, and lack of haste will decrease the possibility of injury.

Cesarean section was performed in sixty-seven cases, with two neonatal deaths, one a 1,550 gram fetus from a patient with placenta previa, and one a 1,240 gram fetus in a toxemic patient.

There were two maternal deaths in this series. A primipara with severe pre-eclampsia had a cesarean section at thirty-two weeks' gestation and died from pulmonary embolism. A primipara with heart disease and pre-eclampsia delivered twins, decompensated during labor, and died forty hours post partum.

Vaginal bags were used in about ten per cent of the primiparas and three per cent of the multiparas. The author feels that a more extensive use of bags would probably have resulted in a lower fetal mortality.

In regard to the management of breech presentations, after thirty-two weeks an external cephalic version should be attempted and repeated at weekly intervals if the breech presentation recurs. No undue force and no anesthesia should be used during external version. A patient with breech presentation after thirty-five weeks' gestation in early labor or with ruptured membranes should be carefully evaluated, and delivery should be by cesarean section if the pelvis is (1) contracted or (2) borderline with a large baby. Final decision as to management should be made after six to eighteen hours of labor and/or ruptured membranes.

Large doses of analgesic drugs should not be used unless the labor is normal. In the test of labor, one should be guided mainly by the length of time it takes for the cervix to dilate. If the cervix dilates completely, 4,500 gram babies can



be delivered from most pelves by a skilled obstetrician.

A systemic outline for the management of breech delivery is presented, but it is pointed out that each case must be considered individually. The important steps in breech delivery may be summarized as follows: (1) prompt recognition of abnormal labor; (2) delivery, if there has been no descent for one hour and the cervix is completely dilatable; (3) deep surgical anesthesia with chloroform or drop ether; (4) deliberation in delivery; (5) deep episiotomy when the feet are through the vulva; (6) in the difficult case the baby's body must be slowly rotated back and forth with slight traction until one of the scapulae appears under the symphysis; the fingers can then be hooked in the elbow, or the humerus can be splinted and the arm wiped over the baby's chest delivered, and the other shoulder rotated anteriorly and delivered (Potter); (7) the Celsus-Wiegand-Martin maneuver (flexing head and pressing suprapubically) for delivery of the head, or combined with forceps. Cesarean section should be used more frequently in primiparas at term with large babies presenting by breech.

## OPHTHALMOLOGY

By ROBERT J. WARNER, M.D.  
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Fifty Cases of Retrobulbar Neuritis Caused by Methyl Alcohol Poisoning. A. C. Koverzhenko. *American Journal of Ophthalmology*, March, 1947.

The following are conclusions based on clinical experience with fifty patients. The end result of methyl alcohol poisoning depends on the promptness of therapy. Repeated venesections followed by blood transfusions, and intravenous injections of normal salt, and glucose solutions are most effective. Lumbar punctures should be performed repeatedly during the first week. In the second week therapy should be directed towards arresting the incipient atrophy of the optic nerves, and should consist of hot baths and retrobulbar injections of atropine and strychnine. Inhalations of amyl nitrite twice daily for fifteen days are of value early in the disease, but later they are ineffective. Vitamin B should be used. The prognosis is poor when the initial loss of vision remains without improvement for a long time. Patients with optic atrophy caused by methyl alcohol should remain under ophthalmologic observation for a long time. Improvement of the peripheral field has followed energetic therapy in patients treated two months after the ingestion of methyl alcohol.

## PROCTOLOGY

By O. C. GASS, M.D.  
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Perforated Carcinoma of the Large Intestine Complicating Pregnancy. W. B. Swarthy, M.D., Z. B. Newton, M.D., J. C. Hartman, M.D., and J. W. Stayman, Jr., M.D. *Annals of Surgery*, Vol. 125, No. 2, pp. 251-256, February, 1947.

Carcinoma of the large intestine during pregnancy requires the most careful surgical judgment in its management. This condition is rare, and each case demands especial evaluation because of the variable factors involved. However, in dealing with these cases certain underlying principles are to be kept in mind.

First, the question as to the best management for saving both mother and child. And if one of the pair has little, if any, chance of survival, how can the life of the other best be protected?

Second, the fact that pregnant women tolerate major surgical procedure as well as the nonpregnant woman.

Third, the increased danger of peritonitis during pregnancy has long been known.

With these principles in mind, the approach to a given case of carcinoma of the large intestine during pregnancy is made less difficult. Almost unanimous agreement that in early pregnancy the management should be the same as if the patients were not pregnant.

In the latter months of pregnancy with a viable fetus, the management is somewhat more difficult. Drs. Banner, Hunt, and Dixon recommend exploratory celiotomy to determine the operability of the lesion as soon as possible. If the lesion is inoperable and does not obstruct the birth canal, simple colostomy is done to permit normal delivery. If the lesion is operable, cesarean section, hysterectomy, followed by resection of the lesion, is indicated. When the lesion is in the transverse colon and can be exteriorized, it may be possible to perform a stage-resection without entering the pelvis, thus permitting a normal delivery. Unfortunately, pregnancy may mask the symptoms of carcinoma of the large intestine and the lesion may progress to obstruction of perforation before it is recognized. Drs. Berkley, Bannery, and MacLeod, in 1938, outlined the management for cases with obstruction. They recommend hysterotomy, colostomy, and later resection, regardless of the stage of pregnancy.

According to Drs. Banner, Hunt, and Dixon, there were sixty-two reported cases of carcinoma of the intestine complicating pregnancy up until 1943. They have added seven cases in 1945. Drs. Finn and Lord have reported one case, in 1945, and with the addition of this case the total number of reported cases is seventy-one.

The authors reported an extremely interesting case of a thirty-nine-year-old primipara at seven and one-half months with a perforated cancer of the rectosigmoid. The patient was operated, at which time a para section and a first-stage Lahey bowel section was performed. One month later an abdomino-perineal resection was done.

From a review of the literature they found this to be the third case of perforated carcinoma of the large intestine complicating pregnancy and the first case in which both mother and child have survived.

## GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.  
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**Surgery in the Uterine Fibroid: A Plea for Myomectomy.**

Julian Waldo Ross, M.D. *American Journal of Obstetrics and Gynecology*, Vol. 53, No. 2, p. 266, February, 1947.

The uterine fibroid or myoma uteri, a benign organoid, solid neoplasm, has its origin in the fibromuscular component of the uterus as a local hyperplasia. By condensation of the surrounding fibromuscular structure and the peculiarity of its intrinsic growth, a capsule is developed through which the tumor receives its nourishment and from which, usually, it can be enucleated. The etiology, not unlike that of other growths, is unsettled. However, the endocrine theory of excessive and persistent estrogenic stimulation in the absence of pregnancy, without adequate luteinizing influence, appears at least plausible, if not rational. Fifty to seventy-five per cent of all women thirty-five years of age and over who come to necropsy have fibroids. The American Negro woman is said to be affected three to one to the Caucasian; while in the full-blooded African, the fibroid is almost a nonentity. Finally, women who have not borne

children are said to have a higher incidence of fibroids. The uterine fibroid is a benign neoplasm, and its mere presence should be no cause for surgery. Only incontrovertible reasons, such as hemorrhage, pain, pressure symptoms, signs of tumor degeneration, rapid growth, interference with the pregnant states, cosmetic, and marital purposes should indicate surgical intervention. Myomectomy, even multiple, whereby endocrine balance, menstruation, and reproductive possibility are preserved, should be preferable to hysterectomy. The preoperative, operative, and postoperative preparation, technique, and care, respectively, as outlined, have enabled the authors to perform successfully 900 consecutive myomectomies for the interstitial and submucous types of fibroids with complete control and/or prevention of infection. The objections by opponents of myomectomy such as hemorrhage, infection, adhesions, and tumor recurrence have been effectively overcome in these procedures. The failures and disappointments which followed the former over-all technique of myomectomy for the intramural, but more especially for the submucous fibroids may be accounted for by failure on the part of the operator both to appreciate that, in the submucous type, the involved endometrium is infected particularly about the base of the pedunculated, and in the necrotic areas of the sessile variety, and to do something about it; lack of the preoperative, operative, and postoperative use of the sulfonamide drugs and recently penicillin as outlined above to prevent or control infection; failure to eradicate a chronic infective endocervicitis or other detectable focus of infection prior to operation; failure to prepare the vagina as for a cesarean section; failure to provide postoperative drainage of the uterine cavity following the submucous operations; and failure to institute the proper measures to prevent or minimize passive congestion of the uterus following myomectomy operations.



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# *The JOURNAL of the* **TENNESSEE** *STATE MEDICAL ASSOCIATION*

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE

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## **SOME PROBLEMS IN THE FIELD OF MEDICAL ECONOMICS\***

**H. H. SHOULDERS, M.D., Nashville, President, American Medical Association**

Mr. President and Fellow Members of the Tennessee State Medical Association:

If I had followed the dictates of my impulses and emotions in the selection of a theme for this address, it would have been quite different from what it is. I would have chosen this occasion to pay merited tribute to many members of this association, both living and dead, who have contributed much to the advancement of medicine in this state and to the development of this organization to its present position; men whose lives became a part of my own in service to this association and, I hope my life became a part of theirs.

I would have paid tribute to many men, living and dead, who have contributed so much to the advancement of medicine and medical organizations in the United States—men whose courage, devotion and consecration deserve tribute and emulation.

I would have paid tribute also to the progress of medicine in the United States as a science and an art. I would have paid tribute to its idealism; its humanitarianism and to its remarkable contributions to the advancement of human welfare.

I would have paid tribute to the ways in which the profession of medicine has met the challenge of superstition and adversity

and to the ways which the profession has met the challenge of illness in the home of poverty—the challenge of maternal death and the challenge of the battlefield. Yes, I would have paid tribute to all of these and more, because it is delightful for one to contemplate the fact of being a part of that small segment of humanity which has done so much to advance the well-being of humanity on earth and to earn the confidence, esteem and respect of the people.

I forego the pleasure and satisfaction it would be to me to perform such a service because of the conviction I have that the profession is still faced with a challenge of tremendous importance and magnitude—a challenge which must be met with the same wisdom, courage, devotion and loyalty to ideals that have motivated and guided the profession through all the previous centuries of its existence.

The challenge to which I refer is in the nature of problems in the field of medical economics. At the outset of the discussion of this theme, it is necessary to define what is meant by the term “economics.” The simplest definition I know is this: “It is a study of the means by which the people obtain the goods and services they need and or desire.” It is obvious that economics existed before finance existed. It is also true that the two frequently merge in the same economic situation today.

\*Delivered before the meeting of the Tennessee State Medical Association, Memphis, April 8, 1947.

The next step in such a consideration is to determine whether or not an economic problem actually exists. As to whether or not the people have difficulty in obtaining and in financing the medical care they need and or desire. Proof that such a problem does exist is found in the fact that a large segment of the population in moderate financial circumstances finds it difficult for them to finance the type and quality of medical care which they need and desire and which doctors desire to deliver.

Evidence of the existence of this problem in medical economics is found in the number of charity beds and part-pay beds in hospitals. It is found in the number of cases in which physicians render service without charge. It is found in the number of cases in which physicians render service for which they do not receive remuneration commensurate with the service rendered. Proof that there is an economic problem was found in the creation of the Committee on the Cost of Medical Care over twenty years ago and that agitation has become intensified since that time. Proof of the existence of this problem is found in the fact that the question is agitated in the public press so widely. It has been the subject of high school debate throughout the nation as recent as last year and this. It has found expression in political platforms and in the discussions of politicians on public issues. Yes, proof is adequate to show that the problem does exist.

We doctors have not been ignorant of it. We have recognized its presence for centuries. We adjusted ourselves to it on the basis of altruism and humanitarianism. We place service to humanity above remuneration to ourselves. We accepted the obligation of service to the indigent without charge and the obligation to make charges for services to those able to pay on the basis of the ability to pay.

This method of adaptation may not appeal to the economic sense of a specialist in the field of economics, but I insist it does conform to the highest principles of humanitarianism. I also insist that the adaptation has worked well in enabling all people

regardless of their financial status to obtain high quality medical care. Proof is adequate to show that the people of this nation under this system of financing medical care have received better care than any other like number of people in any nation of the world. Yet this system of financing does not meet the demands of a large segment of the public at the present time. Discussion of the issue has been intensified. At the same time the problem itself has actually increased.

It seems appropriate to consider at this time this question—"How did this problem of medical economics come into being and reach such a state of prominence?" The question is not difficult to answer. Progress in science, invention and technology has always brought economic problems. When there were no automobiles there were no economic problems in the purchase and upkeep of an automobile. When there were no washing machines there were no problems in financing the purchase of washing machines. The same is true of many other inventions and discoveries which have altered the whole pattern of American life. It is equally true that each new step in the phenomenal progress that has taken place in the science, the art and the technology of medicine has brought new problems in medical economics.

Those of us whose memory reaches back far enough to embrace even a portion of the last century, know something of what medical care was forty or fifty years ago without reference to statistical data and we know something of the changes that have taken place. These phenomenal changes have been in two directions. Many diseases such as typhoid, diphtheria and smallpox have disappeared as result of the development and application of preventive measures and many serious diseases which received only ineffective palliative treatment years ago receive effective curative treatment now. When appendicitis was treated largely by the administration of opium pills and maybe the application of heat, it was no economic problem. The cost of administering such care was not great. The results were not good it is true. The mortality was



high. But when the nature of the disease was recognized and the technique for its surgical cure was perfected and applied, the mortality from the disease went down, but the cost of treatment went up. The same can be said of gall-bladder disease, cancer, goitre, prostatic diseases and a large number of other conditions. The effect of this progress has been that many serious diseases have disappeared and curative treatment is now applied to many others. The great result has been that health has been improved. The frequency of serious illness has diminished. Mortality rates have dropped and the length of human life has been extended to an average of almost sixty-five years, thus affording opportunities for a longer pursuit of that elusive thing we call "*happiness*."

The over-all cost of medical care may not have been increased very greatly—I don't know—but the cost of care in many major illnesses has been increased to the individual when it arises. Yes, it can be said that if this remarkable progress in the ability of doctors to prevent and cure illness had not taken place, medical economic problems would not exist today. Obviously the problem is one of maladjustment due to phenomenal progress.

That brings us to the consideration of the treatment of this problem or maladjustment. Two remedies have been proposed, and the two remedies embody two different economic philosophies. One is a political formula, a totalitarian formula; the other is a formula which conforms to all our concepts of freedom. The political formula is about as follows: Give to a government agency the power to tax, the power to spend, the power to direct, the power to determine arbitrarily the needs of the people and the power to regulate the medical profession and the people, and we will solve the economic problems of medical care. That is the totalitarian formula. It is the formula of those who believe in totalitarian government. It is the formula which can not help but lead to tyranny.

The remedy proposed by organized medicine embodies the idea of freedom and democracy. Our proposal is that the prin-

ciple of insurance be applied to this economic problem of medical care in such a way as to enable the person of moderate means to budget for and finance the major costs of medical care without financial hardship and without the impairment of his freedom or his confidential relationship to his physician.

This insurance principle is nothing more nor less than a financial mechanism by which an individual is enabled to transfer a portion of his financial risks to a group by the payment of an insurance premium. It is well that we remember the average truly American citizen desires and deserves the opportunity to meet his own financial obligations. It is not charity he desires so much. This principle of insurance has been applied widely in this country to many different forms of risks: to the financial risk involved in untimely death, to fire hazard and to many forms of liability and so on. It is the cardinal principle of insurance that there must be a definite relationship between the premium required of the insured and the benefit that is guaranteed by the insurer. Fraudulent use has been made of the term "insurance" by applying it to certain legislative proposals for consideration by the Congress of the United States. Proposals which embrace nothing more nor less than the power to tax, the power to spend, the power to regulate and the power to direct, is erroneously called "health insurance."

It is true that the government does conduct an insurance business on an insurance basis in the care of the war risk insurance that is issued to soldiers and war veterans. In this case the soldier or veteran pays a premium which is commensurate with the benefit he is to receive.

It is necessary that we give some thought also to the fact that the principle of insurance has definite limitations. For a risk to be insurable at all it must conform to seven requirements of insurance. I will mention only three of these requirements for consideration now. They are as follows:

1. The laws of mathematical probability must be applicable to the set of events one is trying to protect.

2. The risk must be measurable or predictable.

3. The issuance of an insurance contract must not increase the risk involved to an unpredictable extent.

The insurance principle, therefore, is not applicable to all the financial risks involved in medical care. It is applicable to the major risks involved. It must be remembered constantly that economics is concerned with the means by which the people obtain the goods and services they *need* and or desire. Their needs are predictable to a large extent. Their desires and their demands under certain conditions are not predictable, at all. It is appropriate to draw a sharp distinction between the desires and needs of people and to consider the extent to which each affects economics events. The fundamental needs of people are embraced in the following four categories of goods and services:—Food, clothing, shelter and medical attention. All other categories of goods and services fall under the category of desire. Many of them are luxuries.

The people of this country spent \$3,400,000,000.00 for medical care, hospital care, dental care, medicines (including patent medicines), appliances and so on, in the year 1942. In the same year they spent \$2,200,000,000.00 for tobacco and smokers' supplies; \$3,200,000,000.00 for recreation and \$1,370,000,000.00 for personal services, including hair-dos, cosmetics, barber services and so on.

We have a breakdown of the expenditures in the category of medical services for the year 1944 which shows that only \$1,094,000,000.00 was spent for physicians' services, and \$540,000,000.00 for dental services. <sup>1</sup>In the year 1945 the people spent the tidy sum of \$7,800,000,000.00 for alcoholic drinks.

Yes, desires can be more expensive than needs. It is also true that the desires of the people and their sense of need can be stimulated by propaganda, even political propaganda. This trick has been used effectively for this very purpose.

This phase of the economic problem of medical care could be discussed at great length, but this must suffice.

The proper application of the insurance principle to the financing of medical care is altogether sufficient to solve the major economic problem involved in financing the medical care of all people able to pay anything at all for their care. Financing the care of the indigent is another problem. Churches foundations, lodges, public spirited citizens, the medical profession and various units of government have already contributed and spent enormous sums in behalf of those unable to pay for their services, and still more funds are pledged already. Yes, the people and the medical profession have been liberal and charitable. These several groups conform to my idea of the actions of a true liberal.

Obviously, it has not been necessary and it is not necessary now, to destroy the freedom of all the people in order to render liberal aid to the twenty-four percent of the people who find themselves unable to finance their medical care.

This must suffice for this phase of the medical economic problem.

In this connection it is well to remember that insurance in all the forms in which it is written in this country, never covers all the risks to which the insured is exposed. Liability insurance is limited to certain amount of the liability. Benefits under disability insurance are never equal to the earnings of the insured. Benefits under compensation laws are never equal to the earnings of the insured worker. Fire insurance on a residence is for a portion of the appraised value of the residence and not its total value. These limitations are in conformity with the requirement that "the issuance of an insurance contract must not increase the risk involved to an unpredictable extent." So the application of the insurance principle to the economics of medical care does not require the issuance of a contract which completely covers all the costs of medical care that might arise and all the demands that might be made for attention in the middle of the night for minor illnesses and for many other un-

needed services once the financial responsibility is transferred from the individual to the group.

This proposition is not new. Almost twenty years ago the House of Delegates of the American Medical Association created The Bureau of Medical Economics to study this question. Almost fifteen years ago the House of Delegates adopted ten principles to govern the application of the principle of insurance to the financing of medical care. It must be remembered that no actuarial data existed at that time, on which to base conclusions with respect to premium rates, benefits and so on. As a result of experiments conducted by the medical profession in many localities throughout the nation with many different forms of contracts, an actuarial experience has been accumulated over the years on which to base a sound judgment as to what the procedures should be in applying the principle of insurance to the financing of medical care. As a result of all these actions the American Medical Association through its House of Delegates has taken positive action looking to the active promotion and extension of the application of this principle to the economics of medical care. With respect to private insurance companies, I would say that they, too, have been reluctant to enter this field. They, too, were without actuarial data on which to base a judgment, but they have increased their activity in the field recently and it is my hope they will increase their activity still further. But, until they advance to the point that the field is completely covered,

medicine cannot shirk its responsibility to the people and to its own future.

The medical profession recognizes the fact that this problem is of concern to the public as well as the medical profession. We recognize also that responsibility for its solution rests upon the people and the medical profession. The intelligent cooperation of both groups is required to accomplish its solution.

Through the leadership of the medical profession of Tennessee and the cooperation of many laymen, a proper enabling act was placed on the statute books of the state two years ago. A corporation has been formed under that act to conduct the business of putting into operation a voluntary prepayment medical care plan which, in reality, is the application of the insurance principle to the financing of medical care. Its directors have been selected and a charter obtained. This board of directors is composed of outstanding leaders. They are approaching their task with caution, and I bespeak for them the confidence and cooperation of the entire membership of this association in this noble undertaking.

Much is involved in this issue. By the proper solution of these medico-economic problems in the manner indicated, we will preserve the greatest system of medical care on earth. We will also preserve alike the freedom of the people and the freedom of the medical profession. By so doing we will preserve the highest and best form of human welfare. These objectives are worthy of all the best that is in all of us.



## DISTRIBUTION OF MEDICAL CARE IN TENNESSEE\*

C. M. HAMILTON, M.D., Nashville.

The distribution of medical care is a serious problem and is causing alarm throughout the nation. A great scarcity of physicians exists in the thinly populated areas of the country and the people are keenly aware of this fact. The decline in number of rural practitioners has been obvious to the wide-awake observer who is striving to improve the social and economic conditions of his community. Consequently a loud cry has been made for more doctors in the sparsely-settled areas. It is quite natural for the politician to seize this opportunity to satisfy his constituents by supporting health measures which have a sympathetic appeal to the emotions of the people who are suffering from inadequate medical service. However, most of the health measures introduced in the legislature would not increase the number of doctors nor cause them to move from thickly populated sections to rural regions. On the other hand, the enactment of the majority of these bills would curtail the efficiency and impede the progress of medical service by overloading the busy doctors with red tape, regulations, directives, and minor details. Thus the amount of professional work would be diminished.

The world depends upon agriculture for food and clothing. Most farmers are honest, industrious, rather thrifty, and deserve a higher quality of medical care and a wider extension of its distribution. The American Medical Association is mindful of this acute situation and has recently created a Committee on Rural Health. This committee sponsored the Second Annual National Conference on Rural Health, February 7, 1947. Liberal discussions of this vital question were made by leaders of farm organization, representatives of the medical profession, and others interested in a better and more adequate supply of medical service to rural people. Albert S. Goss, master of the National Grange, made the following pertinent statement: "My organization does

not believe in state control of medicine; we believe there should be a better way. Nevertheless, we believe in adequate medical and hospital services, and if it cannot be found in some other way, I am very sure that the farmers will turn more and more to state control."

The supply of physicians began to diminish with the advent of high entrance requirements in medical schools. A shortage of medical personnel was recognized soon after World War I. A quotation from the *Journal of the American Medical Association*, March 1922, is as follows: "There is an increasing shortage of physicians in the smaller towns—the number of physicians entering the specialties has been rapidly increasing."

Dr. W. C. Dixon, as chairman of the Committee on Postwar Planning in his report to the House of Delegates of this Association in 1946, made these remarks: "The Department of Labor has issued a statement saying that by 1950 there will be a shortage of between ten and twenty thousands of physicians. This shortage results from a combination of long-term trends in the number of physicians trained, in the aging of the members of the profession, on the population growth, and new postwar needs for medical service." He further stated: "That between 1910 and 1940 the population increased 43.2 percent, while for the same period there was an increase of only 13.4 percent in the number of physicians."

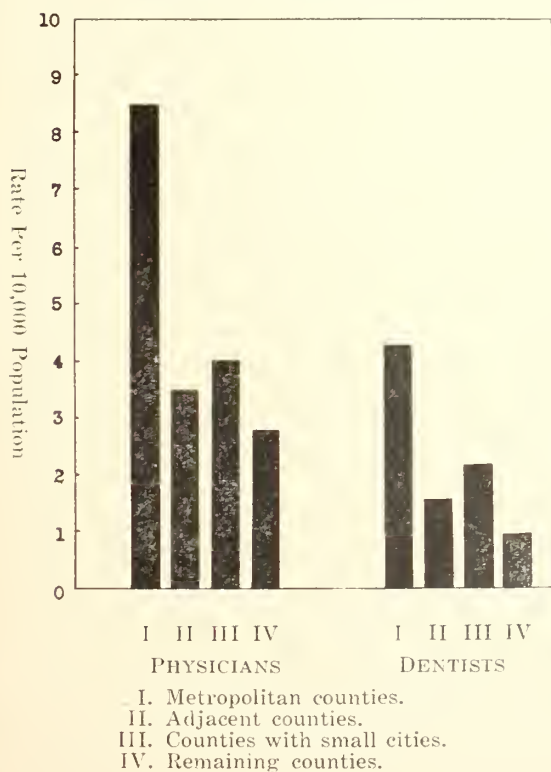
The U. S. Public Health Department has recently issued a statement that sheds additional light on this subject. It has been estimated, according to the present rate of graduations from medical schools, with the normal death rate, and expected increase in population, the country will have an additional shortage of 30,000 physicians by 1960. It was also stated that it will be necessary to increase the number of graduates by 50% within the next twelve years to meet this demand.

The Michigan State Medical Association has appointed a large committee to draw up

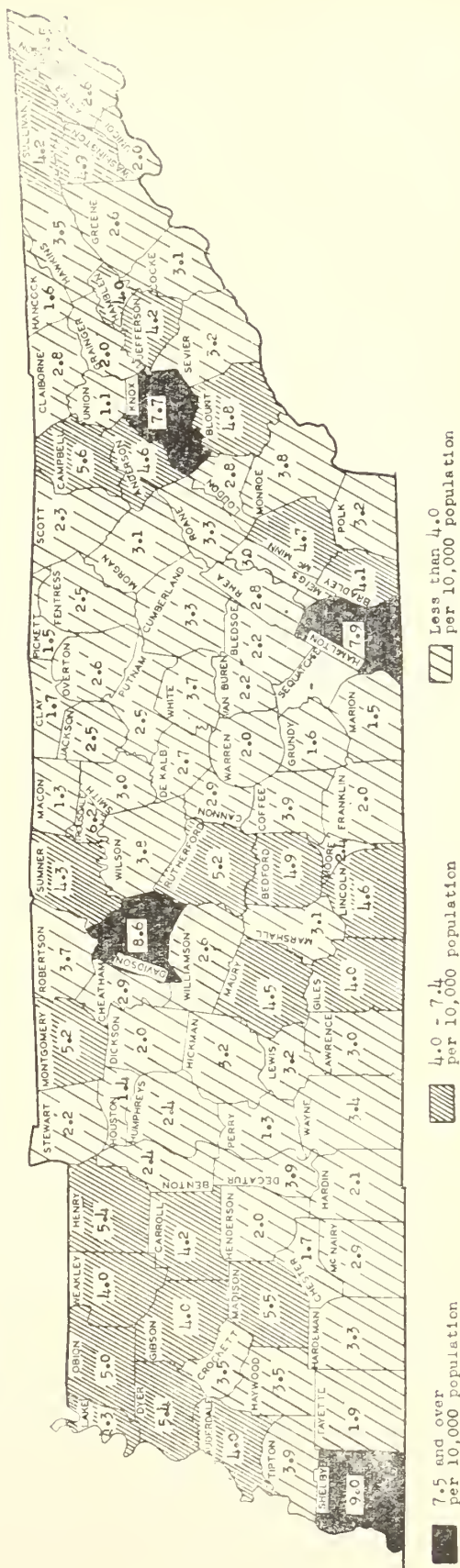
\*Presidential address delivered before the Tennessee State Medical Association, Memphis, April 8-9-10, 1947.

and formulate a plan of public relation. The chief objective is to study legislative proposals, to further an extensive educational campaign, and to study the needs for medical service. According to their study and estimation the ideal distribution of medical service requires one doctor per thousand population. In Tennessee the ratio of active practitioners of medicine was approximately one doctor to 1700-1800 people in the first half of 1946. In the metropolitan counties the proportion is almost one doctor per 1,000 whereas in the rural communities one physician is responsible for the care of 5,000-8,000 people in some instances. One county in the state hasn't a single physician. Fourteen counties are without a dentist. Medical service must be woefully weak in both quality and quantity under such circumstances. The distribution of doctors throughout the state is practically in direct proportion to the county population. The counties with large populations have a high percent of young doctors and the thinly settled regions have a high percent of old

PHYSICIANS AND DENTISTS IN PRIVATE PRACTICE  
PER 10,000 POPULATION FOR FOUR GROUPS  
OF COUNTIES, STUDY OF CHILD HEALTH  
SERVICES, TENNESSEE, 1946



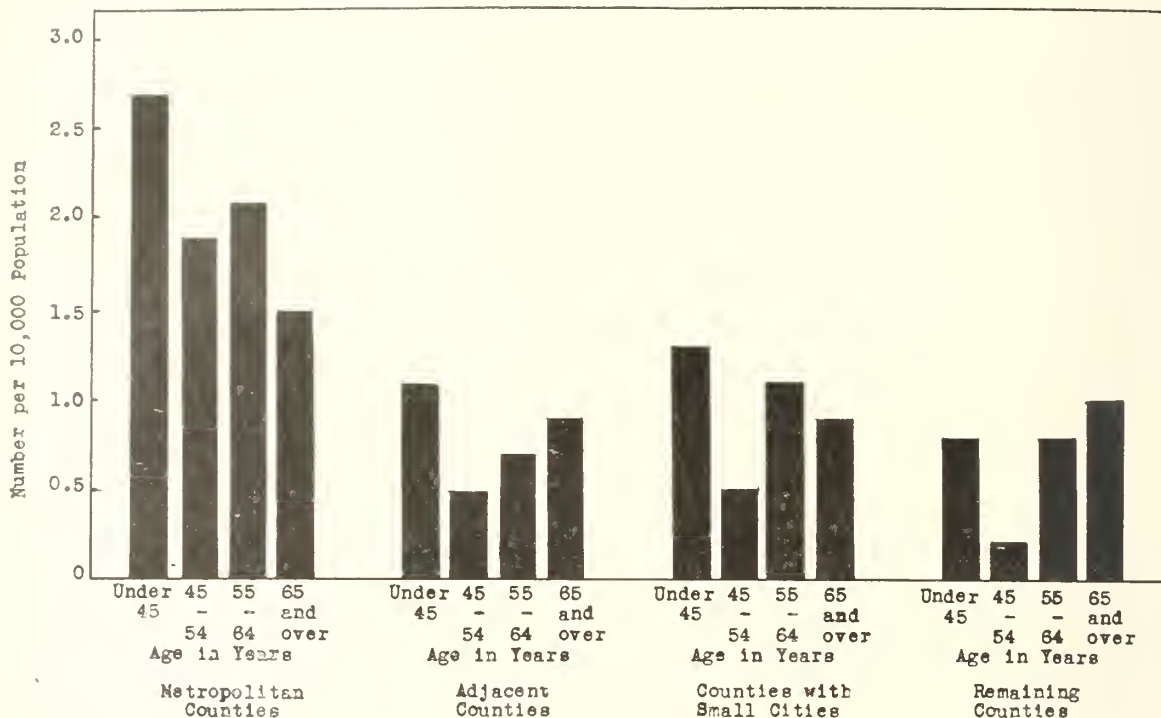
PHYSICIANS IN PRIVATE PRACTICE PER 10,000 POPULATION BY COUNTY. STUDY OF CHILD HEALTH SERVICES, TENNESSEE, 1946



doctors. More than one-third of the doctors in the rural areas are over sixty-five years of age. Almost two-thirds of them are more than fifty-five years of age. According to these statistics the problem of medical care in rural areas of the state will be greater in the future unless steps are taken to rec-

tify this evil. Two sections of the state are especially deficient in doctors numerically. One is a belt in West Tennessee along the Tennessee River where it crosses the state and another is in the upper Cumberland district which may account for Congress-

PHYSICIANS IN PRIVATE PRACTICE PER 10,000 POPULATION BY AGE GROUP FOR FOUR GROUPS OF COUNTIES, STUDY OF CHILD HEALTH SERVICES, TENNESSEE, 1946



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tional health legislation. The scarcity of dentists, nurses, and technicians is equally as great, if not greater. The statistics used in this paragraph have been compiled from data obtained from a survey completed September 1, 1946, by Dr. James C. Overall, Chairman of the American Academy of Pediatrics for Tennessee, in the study of Child Health Services. Naturally minor changes are being made and the tabulations cannot be absolutely correct at this date, but they are relatively accurate and are the basis for this theme.

Some of the obvious reasons for the maldistribution of doctors may be of interest. Basic science laws and high standards of medical education are essential for better quality of medical service but these ideals have contributed very greatly to the dearth of country practitioners. The economic standard of the community is frequently a handicap in attracting a physician. Wherever a shortage of doctors exists, it is usually found that most of the necessities and luxuries of a prosperous neighborhood are also wanting. There are fewer automobiles, fewer telephones, fewer bathtubs, fewer pianos, poorer farms, rougher roads, little or no electricity, mediocre schools and poor churches in these same areas. The educational opportunities of the community may be a determining factor. The highly specialized and technical training of recent graduates tends to discourage them from locations without hospital or laboratory facilities. It is not difficult to understand why young doctors who spend so much time and money for an education and who are trained in up-to-date hospitals equipped with modern technical instruments for diagnosis and treatment do not want to locate where they cannot use the tools with which they are so familiar. They are not satisfied to examine people without these conveniences. This is a major cause of uneven distribution of medical service.

The directors of the Specialty Boards are partly responsible for the plight the country occupies. The requirements of prolonged hospital training is a retarding influence in the supply of medical service. Ex-service men and recent graduates are over-

loading the hospitals in order to qualify themselves for Specialty Board examinations, the standards of which are set by high-minded individuals who happen to be in control. The emphasis given to the importance of Specialty Board membership, which was the basis for establishing rank in the recent world conflict, has caused many young physicians to delay the start into practice until all requirements have been fulfilled. Not only would a period of private practice, substituted for an equal amount of time in residency, be a great reward to the people, but a relief to the resident trainee, without deteriorating his qualification. It would also tend to replace the acquired hospital complex with logical means of diagnosis and treatment.

The outlook for immediate relief is not bright. There are three ways to produce more equal medical service: (1) by making the community practice of medicine more attractive, (2) by increasing the number of practitioners, and (3) by decreasing the amount of disease. Only by a long-range program of education, legislation, and planning with a definite aim at providing a more equitable medical service can results be obtained. The building of hospitals in rural areas as provided under the Hill-Burton Bill would be an incentive to young doctors to locate in these vicinities. Local diagnostic centers, better equipped private offices, more well trained nurses, and trained technicians would enable each doctor to perform better work and to attend more cases. Delivery facilities in private offices with the aid of a well trained nurse will allow the doctor to do more deliveries. Private offices well equipped with instruments for diagnostic and therapeutic purposes, operated by nurses and technicians who know how to use them would be an inducement for the patient to come to the doctor's office rather than to send for him. In this way he can do more work and the results will be more satisfactory for every one. With the assistance of good personnel, two or more obstetrical cases could be handled simultaneously. This would be impossible in widely separated homes in a rural neighborhood.

Much time will be required to build hospitals, diagnostic centers, and more office room. The training of personnel will require several years. Along with the building program an educational campaign should be initiated. The two are interdependent upon each other. Hospitals without staffs would be worthless. A staff without personnel would be helpless. Diagnostic centers and beautifully furnished, well equipped offices without personnel and technical skill, would be of little value. A movement should be started to encourage young people to train themselves for nurses and technicians. A technician who can do laboratory work, operate X-ray machines, and do certain types of treatment under supervision would be invaluable to the overworked physician.

Young men and women should also be encouraged to study medicine. However, there are more students in the pre-med schools than ever before. Some effort should be made to persuade medical school authorities to accept students to the utmost limit of the school capacity and to expand the capacity in every way possible. Schools should have increased appropriations in order to make room for more students. An appeal should be made to state legislatures for this purpose. There are many ways to sway public sentiment and thereby influence legislative action. Exposure of quacks and various kinds of advertisers of magic healing remedies furnishes information both to the public and to law making bodies. The people should be awakened to the fact that the practice of medicine is on the decline and that the practice of quackery is on the ascendancy.

A few suggestions to help solve the problem of furnishing good medical care to more people may be worthy of consideration. Greater emphasis should be given to teaching in general practice in medical schools and residency services in this field should be more universally established. The University of Colorado has organized a service in general practice giving resident instruction of six months each in surgery, medicine, pediatrics, and gynecology and obstetrics, together with a certain amount of training

in the allied specialties. Other schools would do well to follow this practical example.

Scholarships for medical students from rural counties with the understanding that they be required to return after completion of rotating internship for three to five years should ultimately help in the extension of medical care. Money for this purpose may be furnished from state, county, or federal funds. Some of them would remain permanently when once established. Others might seek new locations in order to educate their children or for financial and social reasons. A few might enter training for some of the specialties at this period. If scholarships were offered every three to five years others would be available for replacement. Somewhat similar plans are being tried in Alabama and Mississippi.

Alabama has a state law that provides for one scholarship of \$400.00 per year for one student from each of the 67 counties. At the present time scholarships are being held by students from 36 counties. The student makes application for scholarship through the county medical society. There is no provision requiring the graduate to return to his county to practice. However, most of them feel that they have a moral obligation to return to their county, according to Dr. Ray R. Kracke, Dean of the Medical College of Alabama.

The scholarship program in Mississippi is quite different. The State Legislature in 1946 enacted a bill which established the State Medical Education Board and provided for loans and scholarships to students desiring to study medicine. Commenting on the value of this program, Hon. Walter Silvers, Speaker of the House of Representatives and author of this legislation has stated: "The most urgent and direct contribution which the State can make at this moment is a program which will increase the number of practicing physicians and surgeons within the State. The proof is overwhelming that the number of practicing physicians in Mississippi is far short of the number required to afford the minimum medical service to the people of the State. The shortage is so great that it has not only become alarming but menacing to the health



of a large number of our people. This is particularly true with reference to the rural districts of the State."

Students, regardless of race or sex, who are acceptable for Grade A Medical Schools may be granted loans at 4% interest. The loans must not exceed \$1250.00 for one year nor over \$5000.00 as a total. They agree to repay the loans in five years beginning one year after completion of internship, either in cash or in service. Payment can be made by practicing five years in a locality selected by the Board. After two full years of practice the remaining three-fifths of the loan can be settled for cash without further obligation to the Board or to the State. Sixty loans are in force at the present time.

This worthy cause might be augmented by requiring recent graduates of medicine to spend one year in rural practice. It would neither be feasible nor just to risk the judgment of young inexperienced graduates in this capacity. However, they could be assigned to the supervision of an experienced general practitioner of medicine and could assist him in doing many worthwhile measures. This preceptor-type of plan could be a part of undergraduate curricular activity. On the other hand, graduates who have had one year of rotating internship should be trustworthy in rural practice. The experience gained and the self reliance established without the aid of laboratory facilities would be very helpful. This sort of measure would be of very little value unless adopted on a wide scale and would be difficult to enforce legally. However, the Specialty Boards could make this a requirement of eligibility for examination. One year of rural practice could be substituted for one year of internship or residency. Some arrangement might be made with the hospitals to furnish equipment and material to be used in this undertaking. There is no question about the value of this type of practice both to the doctor in the way of experience and to the community in service. Dr. Fred A. Humphrey, Chairman of the Colorado Committee on Rural Medical Service proposes "Having young medical graduates spend three to five years in general

practice before beginning their residences for specialties." He says this "would relieve not only the shortage of doctors in rural areas, but would be of great benefit to the doctor by broadening his clinical knowledge, by giving him a better understanding of the difficulties encountered in general practice and appreciation of the economic problems."

A third plan for more equalizing the practice of medicine is to grant supplemental subsidies to doctors who will locate in sparsely-settled rural communities. This can be furnished by the state, the county, or by federal donation. A subsidy that will guarantee an income commensurate with the doctors' education and ability should aid in the solution of this question.

The need for medical service can be reduced by a well coordinated plan of preventive medicine. The heartiest cooperation between the practitioners and the Public Health Department should be exercised. Doctors ought to insist, both privately and publicly, on wide programs of immunization. If health officers are not available, the private physician must make it his duty to fulfill this obligation. Most of it can be done by a well trained nurse under medical supervision. Public schools should devote more time to instructions in sanitation, first aid, immunization, and other subjects pertaining to health. Lay organizations could well afford to foster a program of first aid and health study. Many minor injuries can be intelligently handled at home and major complications might be prevented by observation of a few sound rules in first aid. This principle was exemplified on the battle field of the recent war, where the technicians did first aid and left major procedures to the physicians.

The role of better health in the community should have a dual sponsorship. It requires team work and cooperation between the people and the profession. An exchange of ideas should be expressed between the two groups. A more intimate knowledge of the problems of health can be brought about by aggressive leadership in county medical societies. Most of the strained relations that hamper the practice of medicine are due to



misconception. The conduct of the individual doctor will do more to establish good public relations than all other means combined. Honesty, sound ethical practice, and a reasonable charge for services are good assets to the profession and are helpful in public evaluation. Explanations for the necessity of certain fees that may seem high will frequently avoid misunderstanding and furnish good will. Most doctors are interested in the welfare of the people but unfortunately the people do not know it. They should learn this fact by the behavior and conduct of the physician. Every doctor should welcome an opportunity to discuss health problems with influential individuals, before civic clubs, schools, and churches. Refresher courses and post graduate study will help prepare the doctor for more efficient service and will boost his reputation in public estimation. Practically everything that a physician does to make him better prepared for his occupation, either in education or in equipment, elevates his standing in the community and improves public relations.

Local communities should realize that medical care and the health of the people are partly their responsibility. County courts can help solve their own problems by building or helping to build small hospitals and diagnostic centers, furnishing equipment and maintenance. Politicians see that court houses, jails, and post offices are built, furnished and equipped in every county seat in the state, but in many instances turn a deaf ear in helping preserve the health and saving the lives of the people.

Since the supply of medical care is largely a question of economics, something should be done by the leaders of society to improve the living conditions and the earning capacity of the people. Rural people should be persuaded to budget the cost of major unpredictable illnesses by participation in volunteer prepayment hospital and medical service insurance plans. It should be explained that the sale of insurance plans to rural people is more expensive and that the service is more costly than in industry. Therefore it behooves them to assume the initiative in preparing themselves for a more complete medical service, which gives the practice of medicine a greater attraction. The whole problem is not the sole responsibility of the medical profession.

In conclusion, an effort has been made to present a true picture of the distribution of medical care in the state. A few suggestions have been made for consideration in a program for long term planning for the future. There is very little to be done for immediate relief. Something may be accomplished by informing the public of some of the handicaps under which the profession is laboring; by influencing medical school authorities to accept more students and to give more emphasis to general practice; by enlightening legislative bodies of the dire need for more medical and dental education, and the training of more nurses and technicians, emphasizing the need of funds for this purpose. May the welfare of mankind be preserved through cooperative service and mutual understanding.

PHYSICIANS AND DENTISTS IN PRIVATE PRACTICE PER 10,000 POPULATION FOR FOUR GROUPS OF COUNTIES, STUDY OF CHILD HEALTH SERVICES, TENNESSEE, 1946

<i>Group of Counties</i>	<i>Physicians</i>			<i>Dentists</i>	
	<i>Population</i>	<i>Number</i>	<i>Rate</i>	<i>Number</i>	<i>Rate</i>
Total	3,106,289	*1,626	5.2	809	2.6
Metropolitan counties	1,055,543	894	8.5	455	4.3
Adjacent counties	509,372	178	3.5	79	1.6
Counties with small cities	1,006,490	403	4.0	223	2.2
Remaining counties	534,884	149	2.8	52	1.0

\*Includes 2 physicians whose counties of residence were not stated.

## METOPON HYDROCHLORIDE

### (Methyldihydromorphinone hydrochloride)

In 1929, with the funds provided by the Rockefeller Foundation, the National Research Council, through its Committee on Drug Addiction, undertook a coordinated program to study drug addiction and search for a nonaddicting analgesic comparable to morphine. The principal participating organizations were the Universities of Virginia and Michigan, the United States Public Health Service, the Treasury Department's Bureau of Narcotics, and the Health Department of the State of Massachusetts, which brought together chemical, pharmacological, and clinical facilities for the purposes of the study. Metopon is one of the many compounds made and studied in this coordinated effort.

Chemically metopon is a morphine derivative; pharmacologically it is qualitatively like morphine even to the properties of tolerance and addiction liability. Chemically, metopon differs from morphine in three particulars—one double bond of the phenanthrene nucleus has been reduced by hydrogenation; the alcoholic hydroxyl has been replaced by oxygen; and a new substituent, a methyl group, has been attached to the phenanthrene nucleus. Studies made thus far indicate that pharmacologically metopon differs from morphine quantitatively in all of its important actions—its analgesic effectiveness is at least double and its duration of action is about equal to that of morphine; it is nearly devoid of emetic action; tolerance to it appears to develop more slowly and to disappear more quickly and physical dependence builds up more slowly than with morphine; therapeutic analgesic doses produce little or no respiratory depression and much less mental dullness than does morphine; and it is relatively highly effective by oral administration.

In addition to animal experiments, these differences have been established by extensive employment of the drug in two types of patients—individuals addicted to morphine and others (terminal malignancies) needing prolonged pain relief but without previous opiate experience. In morphine addicts, metopon appears only partially to

prevent the impending signs of physical and psychical dependence. In terminal malignancy, administered orally, it gives adequate pain relief, with very little mental dulling, without nausea or vomiting, and with slow development of tolerance and dependence.

The high analgesic effectiveness of oral doses (with the elimination of the disadvantage to the patient of hypodermic injection), the absence of nausea and vomiting even in patients who vomit with morphine or other derivatives, the absence of mental dullness, and the slow development of tolerance and dependence place metopon in a class by itself for the treatment of the chronic suffering of malignancies, and it is for that purpose exclusively that it is being manufactured and marketed.

Metopon will be available *only* in capsule form *for oral administration*. The capsules will be put up in bottles of one hundred, and each capsule will contain 3.0 milligrams of metopon hydrochloride. They can be obtained by physicians only from Sharp & Dohme or Parke, Davis & Co. on a regular official narcotic order form, which must be accompanied by a signed statement supplying information as to the number of patients to be treated and the diagnosis on each. The drug will be distributed for *no other purpose* than oral administration for chronic pain relief in cancer cases.

The dose of metopon hydrochloride is 6.0 to 9.0 milligrams (two or three capsules), to be *repeated only on recurrence of pain*, avoiding regular by-the-clock administration. As with morphine, it is most desirable to keep the dose at the lowest level compatible with adequate pain relief. Therefore, administration should be started with two capsules per dose, increasing to three only if the analgesic effect is insufficient.

Tolerance to any narcotic drug develops more rapidly with excessive dosage and under regular by-the-clock administration. Also, as a rule, the pain of cancer varies widely in intensity from time to time. Pain, therefore, should be the only guide to time of administration and dosage level.

Tolerance to metopon hydrochloride develops slowly. It can be delayed or interrupted entirely by withholding the drug occasionally for twelve hours or for as much of that period as the incidence of pain will permit.

To each physician will be sent a record card for each patient to whom metopon hydrochloride is to be administered. He will be requested to fill out these cards and return them in the addressed return envelope. He must furnish this record of his patient and his use of metopon hydrochloride if he wishes to repeat his order for the drug. The principal object of this detailed report is to check the satisfactoriness of metopon hydrochloride administration in general practice. The physician's cooperation in making it as complete as possible is earnestly solicited.

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The limited use of metopon hydrochloride as described above has been recommended by the Drug Addiction Committee of the National Research Council, and the Committee, with the cooperation of the American Cancer Society, will supervise the distribution of the drug. The Committee is composed of William Charles White, Chairman, Washington, D. C.; H. J. Anslinger, Commissioner of Narcotics, United States Treasury Department, Washington, D. C.; Lyndon F. Small, National Institute of Health, Washington, D. C.; and Nathan B.

Eddy, National Institute of Health, Washington, D. C. Queries and comments on metopon may be directed to Dr. Eddy, who will answer them for the Committee.

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## FUNCTIONS OF COUNTY SOCIETIES\*

JOHN C. BURCH, M.D., Nashville

Let me preface my remarks by expressing my gratitude for being your president. I consider it a great honor, for ours is the oldest scientific body west of the Allegheny Mountains. For many years it was the best county society in the country, and it should be again. From its ranks have come more distinguished men than from any other. What other county society could or ever will be able to honor simultaneously the president and the president-elect of the American Medical Association, etc.

All of us are committed to the general principle of developing Nashville as a great medical center. Some, perhaps with an eye to the past, will maintain that we are a great medical center. But a realistic appraisal of the situation will certainly raise a few doubts in the minds of the most optimistic. We have most of the elements—a clean, capable, competent profession, one of the world's great medical libraries, an excellent medical school, and some exceptionally good hospital facilities. However, these are woefully lacking at the present time. The Academy's plan for expanding our hospital facilities will do much to remedy our lack of hospital beds. Progress is being made along this line. But this alone will not solve our problem. In my opinion, our difficulty lies in the fact that we have the resources but that we are lacking in their integration. This necessary integration of our resources can most easily be accomplished by a harmonious blending of all elements in a strong and progressive Academy. This is a basic and fundamental

proposition, and I feel sure it has the support of all our members.

In approaching the problem of the Academy, it is well to realize that our meetings are much the same as they were fifty years ago. The Academy was organized in an era when there were no special interests, and now almost everyone has a special interest. In addition, there is competition from some very good hospital staff meetings as well as from the many diversions of modern life. To me, at least, it seems clear that we must adjust to these circumstances. Our programs must be of the highest type and of such wide general interest as to attract most of our members. They must be carefully planned with this objective in mind, and the standard of the presentations must be maintained on a high level.

To translate this general idea into a workable plan, a mechanism must be found whereby the problem can be studied in all its aspects. The opinion of every interested member must be solicited and considered. The findings should be a subject for general discussion. In this way our board of trustees will have the facts on which to formulate a plan acceptable to all.

The profession of medicine is a field in which continuing study is a vital necessity. The acceptance of this concept by the younger men is of the highest importance. They must take an active role in the Academy. They must feel it is their Academy.

The influence of the Academy in stimulating the professional development of us all is invaluable. When our Academy has met this need, we shall see a fusion of opinion and purpose which will result in the achievement of our goal: Nashville, the Medical Center of the South.

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\*Inaugural address read before the Nashville Academy of Medicine and Davidson County Medical Society, January 7, 1947.

## FRANKLIN BLEVINS BOGART, M.D.

With a President possessing the ability of Dr. Bogart, The Tennessee State Medical Association has nothing to fear during the year to come. "Bogie," as he is affectionately called by his friends, is just what the term "gentleman" implies. The medical profession of Tennessee has never had a man who has worked harder than Dr. Bogart for the advancement of medicine in our great State.

Our new President was born in Chattanooga, Tennessee, May 15, 1894, the son of Dr. William M. Bogart and Keturah Thompson Bogart. Our President's father was a successful practitioner in Chattanooga for many years. Dr. Bogart married Rose Alice Harloff of Madison, Wisconsin, May 19, 1920. Dr. and Mrs. Bogart have two lovely daughters, Miss Helen Bogart and Miss Alice Bogart.

Dr. Bogart was educated in the public schools of Hamilton County, received his B.S. in 1916 from the University of Wisconsin, his M.S. in 1917 from the same institution. He was graduated from Johns Hopkins University with the degree of M.D. in 1919. During World War I, our President was a private student, Army Training Corps, Johns Hopkins University. During World War II, he was past the age limit, but, not satisfied with having served in World War I, he entered the United States Army as a Major, being promoted later to the rank of Lieutenant Colonel. He was Chief of the Radiological Branch, Letterman General Hospital, Presidio of San Francisco, California.

Our President is a member of Lookout Mountain Presbyterian Church, Fairyland Club, Fairyland Golf Club, American Legion, and Rotary Club; and is a member of the Board of Directors of the Chattanooga Public Library. Here it might be well to state that Dr. Bogart has contributed many fine books to the Medical Library of this city, and largely through his efforts the Chattanooga profession enjoys one of the best medical libraries in the South.

Our President is engaged in private practice as a specialist in diagnostic and therapeutic radiology. He is a member of the staff of Baroness Erlanger Hospital and also at Pine Breeze Tuberculosis Sanatorium. He is active in the following Medical Societies: Chattanooga and Hamilton County Medical Society, President, 1934; Tennessee State Medical Association, member Board of Trustees, 1935-1942; Southern Medical Association, Secretary, Section on Radiology, 1934, Chairman, Section on Radiology, 1935. Dr. Bogart is a Fellow of the American College of Radiology, a Fellow of the American College of Physicians, a member of the American Roentgen Ray Society, a member of the American Radium Society, a member of the Radiological Society of North America, and a diplomat of American Board of Radiology.

The Tennessee State Medical Association has indeed selected a LEADER for the coming year.

J. B. S.



FRANKLIN B. BOGART



# THE JOURNAL

OF THE

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W. M. HARDY, M.D., Editor and Secretary

MAY, 1947

## EDITORIAL

### "POLITICAL MEDICINE"

Last November when the complexion of Congress was so radically changed, many physicians thought that all danger of political medicine had disappeared. They reasoned that with a change of party there would be a change of policy. But it was not that simple. Extravagant promises to deliver a needed service had a great appeal to some voters. Whatever political party advocated and enacted such a bill would naturally receive the support of those voters who wanted "free" medical care. In this way political medicine would be a political factor not to be overlooked by politicians.

For more than four months we have been watching the Eightieth Congress in action. Or should we say we have been watching the inaction of the Eightieth Congress? The motto which most aptly describes the present session seems to be "many men of many minds." There has been no lack of medical bills introduced. There has been a deluge of talk about cutting taxes, reducing spending, balancing the budget, controlling the atom, ending the war, regulating labor, and many other subjects. Yes, when it comes to talking, this Congress wins first place. When it comes to accomplishing nothing, it is again a winner.

So while there is threat at the present time and no probability of early action on any subject, let us not overlook some very important factors. The bureaucrat never

sleeps, nor does he know party lines. The organizations so carefully built under the protection of civil service are still at work. Small men in small positions fifteen years ago are now directing bureaus.

Small appropriations of the past have become larger with each appropriation bill. The professional social service "do-gooders" continue to increase in number. Their lust for power and their determination to control medicine (under the guise of benefiting health) knows no party lines. Like the chameleon, their skin changes color to match the background, but their purpose is unchanged.

Every doctor and every freedom-loving citizen must be on guard against this constant threat of these men who place personal gain above public welfare. Let us remember that "constant vigilance is the price of freedom."

### THE ONE HUNDRED TWELFTH ANNUAL SESSION

According to schedule, the One Hundred Twelfth Annual Session of the Tennessee State Medical Association was held in Memphis, at the Peabody Hotel, April 8, 9, 10, 1947.

In a number of ways, the meeting was on a par with other meetings, if indeed not superior to former sessions.

One very noticeable and pleasing difference from last year's meeting was the lack of members in uniform. Only a few uniforms were seen during the meeting. Discharge buttons had replaced the uniforms, and all rejoiced because of the return of our medical officers from service.

We had a number of guest speakers on the program. Among these were our own Dr. Harrison H. Shoulders, President of the American Medical Association, and Dr. George F. Lull, Secretary and General Manager of the American Medical Association. Dr. Olin West, of Nashville, President-Elect of the American Medical Association, had accepted an invitation to appear on the program. Due to the state of his health, Dr. West resigned as President-Elect of the American Medical Association and was unable to attend the Memphis meeting. Everyone regretted his absence. Frank E.

Smith, Ph.D., Director of Associated Medical Care Plans, Chicago, addressed the general session. Also from the American Medical Association headquarters office were Thomas G. Hull, Ph.D., and Dr. Jung, who added much to the meeting through their scientific exhibits.

Dr. Dudley C. Smith of the University of Virginia was the guest speaker invited by President C. M. Hamilton. Dr. Abraham Levinson addressed the session as the guest of the Academy of Pediatrics. Col. William C. Porter was invited by the Postgraduate Committee on Psychiatry. Dr. Fletcher D. Woodward, University of Virginia, brought a message at the invitation of the Academy of Ophthalmology and Otolaryngology. The Radiological Society was represented by its guest speaker, Dr. U. V. Portmann of Chicago. Mr. M. H. Peterson presented the work of the National Physicians Committee, while Dr. Joseph G. Molner represented the National Foundation for Infantile Paralysis. With such outstanding guest speakers, our Tennessee doctors completed the program, which, all in all, was worthy of the reception it received.

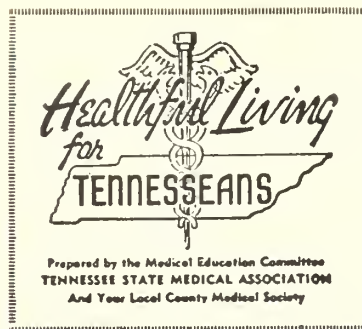
Our hosts, members of the Shelby County Medical Society, contributed all that could be desired to make the convention a grand success socially.

The whole mezzanine floor of the Peabody Hotel was filled with exhibits. Here you could inspect all kinds of equipment for office or hospital, discuss books and drugs, learn about food for babies and invalids, and view the scientific exhibits of schools and the American Medical Association, learn what your Postgraduate Committee was planning and consume uncounted bottles of Coca-Cola.

Statistically the registration desk showed those present as follows:

Members of the Association	490
Visiting physicians	29
Exhibitors	76
<hr/>	
Total	575

Yes, the Memphis Session was one grand success, and we are looking forward to returning in three years after visiting Nashville in 1948 and Chattanooga in 1949.



## HEALTH COLUMN WELL RECEIVED BY NEWSPAPERS OF TENNESSEE

Pursuant to authorization by the Board of Trustees, the Tennessee State Medical Association is preparing and releasing a regular health column entitled "Healthful Living for Tennesseans" to all of the newspapers in the state.

The first weekly release reached the newspapers on the week of March 10. During the first eight releases, seventy-six papers carried the column one or more times, many of them carrying it as a regular feature. The circulation of these newspapers totals more than 150,000. These seventy-six newspapers are scattered all over the state and thus provide wide distribution of the column. In view of the newsprint shortage, we feel that the acceptance of this column by the editors has been excellent.

The column is written by the Assistant Secretary in simple, lay style of 200 to 300 words and is carefully reviewed by the Education Committee of the Association before it is released to the press.

We want the column to stand on its own merits, therefore no special effort has been made to persuade editors to publish it. However, newspaper editors, like all other people, appreciate a little "thank you" message for their courtesies. Also, many other editors would gladly carry the column if they know the local society and local physicians would appreciate it.

Please check your local paper and see if it is carrying the column. If so, tell your local editor you appreciate it. If he does not carry the column, tell him you would like to see it in his paper.

## VETERANS ADMINISTRATION CONTRACT

Section 8 of the contract of the Tennessee State Medical Association with the Veterans Administration provides, "The Tennessee State Medical Association, *through its component county medical societies*, will assist the Veterans Administration in establishing for examinations and treatments a list of competent specialists, subject to the regulations of the Veterans Administration."

This contract has been published in the JOURNAL several times. All of the county secretaries were requested in a letter of January 8, 1947, to send a list of all qualified specialists. A number of the lists have been received, but the majority of counties have not complied with this request.

We have recently received a communication from the Veterans Administration defining the use of the word "specialists" in Section 8 of the contract. This letter reads as follows:

*Standards for Medical Specialists*  
(Excepting Neuropsychiatrists Designated for Therapy)

"The following standards for medical specialists performing out-patient examination or treatment services on a fee basis under state-wide plans are promulgated by Veterans Administration Central Office Professional Services. These standards are for the guidance of Branch Section Chiefs in their recommendations to Branch Medical Directors for selection of specialists to function under state-wide contracts or agreements from lists of physicians proposed as specialists by State Medical Societies. Exceptional or meritorious cases of physicians who do not conform to the standards stated above will be referred for final decision to the Professional Standards Board, Central Office:

- "1. Certification by the appropriate Specialty Board; or in lieu thereof
- "2. Specialists not possessing Specialty Board certificates.
  - (a) At least four years' experience in a given specialty (including recognized residency), and

- (b) at least fifty per cent of practice devoted to a given specialty.
- (c) Recognized as specialist by the Medical Association or Society in the state in which he practices."

The attention of the members is again called to this provision of the contract. We request that each medical society, at its next meeting, take suitable steps to make a list of veterans confirming with the above standards and to send the list so made to the Headquarters Office.

## DEATHS

## ROBERT L. BEAN, M.D.

Robert L. Bean, M.D., Cleveland; Chattanooga Medical College, 1898; aged eighty; died April 19, 1947.

## LEMUEL B. GILBERT, M.D.

Lemuel B. Gilbert, M.D., McMinnville; aged seventy-two; died April 11, 1947.

## RESOLUTIONS

## ELBERT GLENARD WOOD, M.D.

In the lamentable death of Elbert Glenard Wood, the Knoxville Academy of Medicine and the Knox County Medical Society lost one of its most beloved and valuable members. He richly deserves upon the scroll of honor the inscription: "Well done, thou good and faithful servant." He not only loved and respected his own profession, but felt himself bound to uphold it and to claim for it the respect it deserves.

He not only served his local Society, but was active and untiring in the work of the State and National Associations. Although in ill-health for many years, he never complained or used this as an excuse for refusing any commission that was assigned to him, regardless of how strenuous the work may have been. As a delegate to the American Medical Association for many years, he ranked high, and any committee that he was placed upon received his careful and continuous attention until that committee's job was completed.



At home and abroad he was always cheerful and hopeful, going about his business with a smile on his face and took the changes and chances of this mortal life like a man, facing rough and smooth alike as it came.

He was a firm believer in organized medicine and looked with horror upon the possibility of our profession becoming socialized. He contributed freely, both in time and money, to every program that was organized for the uplifting of his profession—local, state, or national. He was a defender of the faith in the truest sense and knowingly shortened his own life by refusing to lessen his activities for the benefit of all, confreres and patients alike.

Dr. Wood is gone, but the memory of his smile, his cheerfulness, his loyalty, and his willingness to serve will remain with us evermore.

We the committee request that this memorial be recorded in the minutes of the Knoxville Academy of Medicine and read again before the staff of the Fort Sanders Hospital at its next meeting, and that a copy be published in the Tennessee State Medical Journal, and that a copy be sent to his bereaved family.

E. R. ZEMP, M.D., *Chairman*;  
JESSE C. HILL, M.D.,  
DAN R. THOMAS, M.D.

SANFORD EDWIN GAINES, M.D.

*Whereas*, Dr. Sanford Edwin Gaines, our beloved brother, has been removed from our midst, we who knew and loved him for his integrity and unselfish devotion to truth and the practice of medicine, recall his totally fine characteristics, his constant effort and desire to ever raise to a higher plane the holy privilege of bettering the part of suffering mankind. Dr. Gaines, during his fifty-five years of practice in White and adjoining counties, was privileged to see such epidemics as typhoid, diphtheria, and smallpox controlled. The heart of our beloved Dr. Gaines was melted by the tragedies and achievements, by the foibles and nobility of his patients. Dr. Gaines was above all a *physician*.

*Whereas*, we, the medical profession, knowing his true worth but realizing that the great loss is to Dr. Gaines' family and kin, and to the many hundreds whom he brought into the world and ministered unto, offer these condolences to his loved ones, spread a copy upon the minutes of the White, Warren, and Van Buren County Medical Society, and submit a copy to The Tennessee State Medical Association.

*Be It Therefore Resolved*: That we, concurring unanimously in the above sentiments, and officially constituted by the Society, affix our names hereunto.

C. B. ROBERTS, M.D.,  
W. H. ANDREWS, M.D.,  
C. E. TUBB, M.D.,  
E. B. CLARK, M.D.,  
J. C. BLANKENSHIP, M.D.,  
B. L. UPCHURCH.

## AND WE QUOTE

*Dear Dr. Hardy:*

During the past ten years the Drug Addiction Committee of the National Research Council has sponsored the investigation in the laboratory and clinically of a new morphine derivative, *metopon hydrochloride* (methyldihydromorphinone hydrochloride). This study has demonstrated that metopon possesses certain outstanding advantages which could make it the drug of choice for the treatment of the pain of cancer, especially in the home care of terminal cases and for that purpose the Committee has recommended its manufacture and limited marketing. The contemplated plan of limited and controlled availability of the drug is based upon its narcotic character, its somewhat limited supply on account of manufacturing difficulties, and its advantageous applicability only to the type of case indicated. The manufacturers, Mallinckrodt Chemical Works, Merck & Co., Inc., and New York Quinine and Chemical Works, Inc., who are the firms licensed to manufacture morphine, and the distributing pharmaceutical houses, Sharp & Dohme, Inc., and Parke, Davis & Co., have agreed not to advertise the compound, but to leave

its introduction to the profession entirely in the hands of the Drug Addiction Committee. We believe the best method of introduction to be publication of a clear statement of the drug's properties as nearly simultaneously as possible in the national and state medical society journals, and to this end the Committee asks your cooperation.

Will you publish the accompanying statement on metopon hydrochloride in THE JOURNAL OF THE TENNESSEE STATE MEDICAL ASSOCIATION at the earliest date possible? If you feel that it is justified, editorial comment on the Committee's program will be appreciated. If you have any questions or suggestions, we will be very glad to entertain them, and you may be sure that we, who have nothing to gain except the knowledge of more satisfactory relief of the distress of terminal cancer, will be very glad of your help.

Sincerely,

NATHAN B. EDDY, M.D., *Secretary,*  
*National Research Council.*

#### NEWS NOTES AND COMMENTS

Julian C. Gant, M.D., announces the removal of his office from 332 Commonwealth Avenue, Boston, Massachusetts, to Madison Sanitarium and Hospital, Madison College, Tennessee. Practice limited to diagnosis and internal medicine.

Max K. Moulder, M.D., Diplomate American Board of Urology, announces the re-opening of his office at 620 Bennie-Dillon Building, Nashville, for the practice of urology and urological surgery.

A Tennessee State Society of Pathologists was formed at the State Medical Meeting in Memphis, Tennessee, April 9. The Society was organized by fourteen pathologists from various sections of the state. The following officers were elected: Dr. Alfred Golden of Memphis, President; Dr. W. A. Demonbreun of Nashville, Vice-President; Dr. T. C. Moss of Memphis, Secretary-Treasurer. It is planned to recruit other members of the profession from throughout

the state in the near future. Meetings of the group will be held at least once yearly, and a scientific program consisting of papers and postgraduate instruction will be presented.

Oren A. Oliver, D.D.S., and William H. Oliver, D.D.S., announce the removal of their office to 1915 Broad Street, Nashville, for the practice of orthodontics.

#### WOMAN'S AUXILIARY



Mrs. Robert F. Patterson, the new President of the Woman's Auxiliary to the Tennessee State Medical Association, was born and reared in Georgia. She is a graduate of Bessie Tift College of that state.

During the years Mrs. Patterson has lived in Knoxville since her marriage to Dr. Robert Patterson, orthopedic surgeon of that city, she has had many interests outside her home. Her chief interests have always been her home, her friends, and her flowers.

She is never happier than when entertaining friends in her home.

Mrs. Patterson's interest in church work has been consistent and abiding. She is Past President of Ossoli Circle of Knoxville, the oldest federated club in the South, and she served two years as President of the local chapter of the Auxiliary to the Knoxville Academy of Medicine.

The medical atmosphere of Mrs. Patterson's home is continually expanding, as she has one son who is now a premedical student at the University of Tennessee, and another one who is a practicing physician, both of whom are war veterans.

We are sure that Mrs. Patterson will bring into her administration a full measure of interest and enthusiasm. We wish her *bon voyage*.

#### Officers

President—Mrs. Robert Patterson, 3457 Kingston Park Drive, Knoxville, Tennessee.

President-Elect—Mrs. Oscar G. Nelson, 3601 Hampton Avenue, Nashville, Tennessee.

First Vice-President—Mrs. Herbert Acuff, Cherokee Boulevard, Knoxville, Tennessee.

Second Vice-President—Mrs. M. W. Holahan, 764 McConnell Street, Memphis, Tennessee.

Third Vice-President—Mrs. Lynch Bennett, Tyne Boulevard, Nashville, Tennessee.

Treasurer—Mrs. J. F. Morrow, Montview Drive, Knoxville, Tennessee.

Recording Secretary—Mrs. Elisha Farrow, Bells, Tennessee.

Corresponding Secretary, Mrs. J. Frank Manning, Maryville, Tennessee.

Historian—Mrs. Carl R. Crutchfield, 1533 Demonbreun Street, Nashville, Tennessee.

Parliamentarian—Mrs. H. E. Christenberry, Highland Drive, Knoxville, Tennessee.

New Directors (elected for two years)—Mrs. W. W. Potter, Knoxville; Mrs. John Burch, Nashville; Mrs. W. O. Baird, Henderson.

#### Committee Chairmen

The chairmen were appointed by the President.

Program—Mrs. H. Dewey Peters, Alta Vista Way, Knoxville, Tennessee.

Public Relations—Mrs. J. M. Dorris, 1906 Jackson Avenue, Memphis, Tennessee.

Press and Publicity—Mrs. Thomas F. Frist, 2516 Fairfax Avenue, Nashville, Tennessee.

Hygeia—Mrs. Charles C. Smeltzer, 1905 Prospect Place, Knoxville, Tennessee.

Legislation—Mrs. Joseph D. Anderson, Sharondale Drive, Nashville, Tennessee.

Organization—Mrs. Oscar G. Nelson, 3601 Hampton Avenue, Nashville, Tennessee.

Finance—Mrs. L. M. Graves, 900 North Barksdale Street, Memphis, Tennessee.

Revisions—Mrs. Clyde Crosswell, 495 North McLean, Memphis, Tennessee.

Bulletin—Mrs. Jesse C. Hill, 4323 Lyons View Pike, Knoxville, Tennessee.

Archives—Mrs. Carl S. McMurray, 2110 Fairfax, Nashville, Tennessee.

### MEDICAL SOCIETIES

April 8: There was no meeting on account of the State Medical Meeting held in Memphis.

April 15: "Certain Endocrinological Aspects of Diabetes," by Dr. Addison B. Scoville. Discussion by Dr. Albert Weinstein.

April 22: "Studies on Blood Volume and Shock, Using Tagged Red Blood Cells," by Dr. John G. Gibson II, Boston, Massachusetts.

April 29: "Some Recent Advances in Cardiovascular Diseases," by Dr. J. Allen Kennedy. Discussion by Drs. George R. Meneeley and F. T. Billings.



*Franklin County:*

The Franklin County Society meets on the fourth Friday of each month in the Health Department office in the courthouse.

*Greene County:*

The Greene County Society meets on the first Tuesday evening of each month at the Brumley Hotel. Dinner is usually served at 6:30 P.M., EST. Meetings are not suspended during the summer months.

*Knox County:*

April 15: "Symposium on Carcinoma of the Breast"—"Surgical Aspects," by Dr. G. Turner Howard; "Radiological Aspects," by Dr. George Tharp. Discussion by Drs. C. L. Chumley and Eugene Abercrombie.

April 29: "Epilepsy," by Dr. Jere C. Price, New York City.

## OTHER MEDICAL SOCIETIES

The Third American Congress on Obstetrics and Gynecology will meet in St. Louis, Missouri, September 8-12, 1947.

## ABSTRACTS OF PAPERS PRESENTED AT VANDERBILT MEDICAL SOCIETY APRIL 4

1. Case Report: "Large Fibromyoma of Uterus with Multiple and Unusual Complications," by Dr. R. O. Cannon.

A thirty-six-year-old Negress admitted to the gynecological service of Vanderbilt Hospital with a two-year history of "heartburn and sour stomach." For three to four months she had regurgitated eight to ten cups daily of sour material. For the past year had noted a firm lower abdominal mass with gradual increase in size, resulting in a "bearing down" sensation in the pelvis.

Past history revealed that at age eleven, while under induction of ether anesthesia for tonsillectomy, during the struggle she received a neck injury resulting in complete paralysis from the neck down. The family history was significant in that her

mother, aunt, and maternal grandmother had pigmented "moles."

Physical examination of the patient showed numerous pigmented moles over face, neck, and trunk, marked flexion contractures of all four extremities, a large multinodular myoma of the uterus which practically filled the abdominal cavity.

X-ray studies revealed the first cervical vertebra to be partially herniated in the foramen magnum and the second vertebra to be against the base of the skull. G-I series showed a moderate size esophageal hiatal hernia of the stomach.

Final preoperative diagnosis:

- (1) Multinodular myoma uteri.
- (2) Esophageal hiatal hernia of stomach.
- (3) Neurofibromatosis (Von Recklinghausen).
- (4) Spastic quadraplegia.

Under continuous spinal anesthesia a supravaginal hysterectomy was done and the large nodular myoma removed. Surgical course was uncomplicated. At discharge on tenth postoperative day there was complete relief of gastric distress and regurgitation. On six weeks follow-up the patient was continuing to do well with no return of symptoms.

This paper was discussed by Dr. John Burch.

2. "The Immune Response of Infants," by Dr. J. C. Peterson.

This paper was discussed by Drs. Herbert Duncan, Hugh Morgan, and Amos Christie.

3. "The Effect of Vitamin M (PGA) on Gastrointestinal Absorption," by Drs. W. J. Darby, Edgar Jones, Henry F. Warden, and Margaret Kaser.

The vitamin M group includes those substances chemically related to pteroylglutamic acid and which exhibit hemopoietic activity for primates. These substances are often loosely referred to as folic acid. There are at least four members of this group of vitamins, all of which are chemically related. In the human, vitamin M is effective in the treatment of sprue, nutritional macrocytic anemia, macrocytic anemias of pregnancy, and the megaloblastic anemias of infancy. These substances are at least

partially effective in the treatment of pernicious anemia.

The diseases in which vitamin M is active have in common a macrocytic type of anemia with megaloblastic arrest of the bone marrow. In sprue there occurs in addition a striking defect in absorption from the gastrointestinal tract. In pernicious anemia, the defective absorption does not predominate, but neurologic lesions may develop. Pteroylglutamic acid restores the blood and bone marrow to normal in all of these conditions. The gastrointestinal defects in sprue are likewise restored to normal by this vitamin as indicated by the cessation of the diarrhea, a decrease in the steatorrhea, return to a normal glucose tolerance, rise in serum carotene, tocopherol and prothrombin levels, and alteration of the vitamin A tolerance. The so-called deficiency pattern on gastrointestinal X-ray study has been observed to alter toward normal in patients treated with vitamin M. Evidence is accumulating, however, that pteroylglutamic acid may not protect the patient with pernicious anemia against the development of serious neurologic disease.

This paper was discussed by Drs. Herbert Francis and C. S. Robinson.

## ABSTRACTS OF CURRENT LITERATURE

### ANESTHESIA

By H. M. AUSERMAN, M.D.  
M. d. cal Arts Building, Chattanooga

Demerol Analgesia in Obstetrics. Alexis Maximov. California Medicine, Vol. 64, p. 43, August, 1946.

To 300 unselected women in labor, demerol was administered. A total of 307 infants were born to the 300 mothers, as follows:

Type of Delivery	Number	Per Cent
Spontaneous	233	77.6
Low Forceps	40	13.3
Breech Extraction	10	3.3
Mid-Forceps	7	2.3
Twins	5	1.6
Version and Extraction	4	1.3
Triplets	1	.6

A control group of 300 similar patients was given barbiturates, paraldehyde, and scopolamine in varying combinations and doses. The method of administration followed was: Demerol 100 milligrams

and scopolamine .48 milligrams (1/150 grain) were given intramuscularly as soon as the patient in active labor began to complain, regardless of the degree of cervical dilatation. This combination was repeated in three hours, and demerol alone was given in 100 milligram doses at three-hour intervals thereafter until the patient was ready for delivery. An attempt was made not to give demerol or scopolamine within an hour of expected delivery as an additional precaution against possible fetal anoxia. As the study progressed, it was found that demerol given within an hour of delivery produced no demonstrable depressant effect on the child, whereas when the combination of demerol and scopolamine was given similarly, several babies required more than the routine measures of resuscitation. The more apprehensive patients received a barbiturate by mouth when the initial dose of demerol and scopolamine was administered. The barbiturate was not repeated. In this group of patients, sedation appeared to be better than in those who did not receive a barbiturate.

Of the 300 patients, 250 required but one dose of demerol for their entire labor; forty were given two doses; seven received three doses; and three had four doses, or a total of 400 milligrams. In nearly all cases, nitrous oxide and oxygen were used during the second stage of labor. Certain deliveries necessitated continuous nitrous oxide and ether anesthesia. Most of the episiotomies and repairs were performed under pudendal block and local infiltration with one per cent novocaine solution.

In the great majority of cases, demerol and scopolamine produced relief of pain and evidence of sedation within from fifteen to twenty minutes after intramuscular administration. The analgesic effect lasted from two to six hours, averaging about three hours. Complete analgesia and amnesia were obtained in 126 patients (forty-two per cent), and satisfactory analgesia in an additional 132 (forty-four per cent); this gave a combined total of eighty-six per cent with satisfactory analgesia. There were forty-two patients (fourteen per cent) who failed to obtain adequate relief. In contrast, only forty-eight per cent of the control patients obtained satisfactory sedation with the barbiturates, paraldehyde and scopolamine, analgesia being unsatisfactory in the other fifty-two per cent.

In the majority of cases, rapid cervical dilatation occurred after the administration of demerol. Time for primiparas was 11.2 hours as compared with 15.4 hours in the control primiparas. For multiparas, labor was an average of 7 hours in those having demerol, as against 9.2 hours in the controls.

No significant side effects were noted. Ninety-five and four tenths per cent of infants breathed spontaneously within two minutes. The slow response in the remaining ones was due to obstetrical causes other than anesthesia.

The combination of demerol and scopolamine, as used for obstetric analgesia, provides satisfactory relief of pain and amnesia, is safe for both mother and child, and is uncomplicated to administer and supervise.

## CARDIOLOGY

By J. ALLEN KENNEDY, M.D.  
Lennie-Dillon Building, Nashville

**The Problem of Venous Thrombosis.** Thomas B. Aycock and James W. Hendrick, Baltimore. *Journal of American Medical Association*, Vol. 133, No. 17, pp. 1258-1263, April 26, 1947.

Of all complications incident to surgical operations, delivery or illness requiring medical management, venous thrombosis, which results in fatal pulmonary embolism or permanently disabling venous obstruction, stands as the most distressing.

Venous thrombosis is a frequent complication, is seen in both medical and surgical groups, and occurs more frequently in the older age group. Patients who have cancer, cardiac diseases, serious infections, disease of the peripheral veins, disease of the blood cells, and trauma are more prone to develop this complication.

In phlebothrombosis the thrombus usually develops first in the plantar veins and in those of the calf muscle and then propagates itself into the deep veins of the thigh and pelvis. Pulmonary embolism is a frequent complication.

Removal of the thrombus and ligation of the affected vein above the thrombus is the rational treatment for phlebothrombosis.

Thrombophlebitis usually completely occludes the vein and usually begins in the deep veins of the thigh and pelvis. Pulmonary emboli are infrequent, but a painful edematous leg often results unless appropriate treatment is administered early.

In thrombophlebitis blocking the sympathetic ganglia with procaine hydrochloride or other suitable anesthetic is useful in promoting a better circulation to the extremity and frequently affects a cure.

**Heparin in the Treatment of Thromboembolic Disease.** Leo Loewe and Edward Hirsch, Brooklyn. *Journal of the American Medical Association*, Vol. 133, No. 17, pp. 1263-1268, April 26, 1947.

The purpose of this report is to present data regarding the rationale and effectiveness of heparin in the treatment of venous thromboembolic disease and to propose an improved method of heparinization which is both safe and practical.

The administration of heparin subcutaneously in the Pitkin menstruum has been used extensively and successfully; however, the injection is so painful as to be disturbing to most patients. This has now been overcome by careful buffering which has

made the gel more acceptable. (Formulas for the heparin mixture with and without vasoconstrictor drugs are given in this and in preceding papers by the authors.)

Heparin given by this method was employed for a period of ten to fourteen days in 168 consecutive patients with venous thromboembolic disease. Of this group, only 2.4 per cent of deaths were due to pulmonary emboli. This is considered a satisfactory result by the authors.

By this method considerably less heparin is used, which is much less expensive for the patient.

## DERMATOLOGY

By CLARENCE SHAW, M.D.  
1013 Provident Building  
Chattanooga 2

**The Herxheimer Reactions of Relatively Small Doses of Penicillin.** Sidney Olansky. *Journal of Venereal Disease Information*, Vol. 28, p. 26, February, 1947.

It is well known that large initial doses of penicillin in the treatment of syphilis frequently cause Herxheimer reactions. This reaction occurs in about fifty per cent of patients with early syphilis, the reactions varying in intensity from mild skin eruptions to fever of 105 degrees Fahrenheit. The Herxheimer reaction in early syphilis is usually not a dangerous one, but in cases of late syphilis, where lesions may be in vital structures, such as the coronary vessels, it might be undesirable.

Because of this, the author gave one thousand units of penicillin every three hours for twenty-four to forty-eight hours in those cases when the history or physical examination indicated that a Herxheimer reaction would be undesirable. Despite this small dosage, severe Herxheimer reactions occurred in six patients with late syphilis. The author concludes, therefore, that penicillin, even in small doses, should not be given to patients with late or complicated syphilis until a course of bismuth has been given.

**Undecylenic and Propionic Acids in the Prevention and Treatment of Dermato-phytosis.** Captain Marion B. Sulzberger, M.C., U.S.N.R., and Commander Abram Hanof, M.C., U.S.N.R. *Archives of Dermatology and Syphilology*, Vol. 55, p. 391, March, 1947.

The object of these experiments, performed by the navy, was to determine the efficacy of certain fatty acids and their salts in the prevention and treatment of ringworm infections of the feet.

In one large clinical study, the prophylactic use of undecylenic acid-undecylenate powder was found to reduce the incidence of dermatophytosis by eighty-five per cent. Therapeutically, this same powder was slightly more effective than sodium propionate powder. Approximately one quarter of all the men studied and examined had clinical evidence of active fungous infection of the feet.



Acne Vulgaris Treated with Vitamin A. Francis W. Lynch, M.D., and Charles D. Cook, M.D. *Archives of Dermatology and Syphilology*, Vol. 55, p. 355, March, 1947.

There have been conflicting reports on the value of treatment of acne with vitamin A. The authors review their experience based on their observation of forty-five patients who were given vitamin A by mouth in a dosage of 100,000 units for an average of four or five months. In forty-six per cent of the cases results could be classed as good, though in only one case could the acne be spoken of as cured. Twenty-seven per cent of the patients showed slight improvement, and twenty-seven per cent showed no improvement. When these figures are compared with controls, it is evident that vitamin A does not produce remarkable improvement in acne. It was usually difficult to persuade the patient to continue vitamin A without other measures when considerable improvement failed to result after six to eight weeks of treatment.

## GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.  
649 Doctors Building, Nashville

Podophyllin Treatment of Soft Papillomas of the Female Urethra. Walter J. Reich, M.D., F.A.C.S., Mitchell J. Nechtow, M.D., and M. William Rubenstein, M.D., Chicago, Illinois. *American Journal of Obstetrics and Gynecology*, Vol. 55, No. 4, pp. 658-660, April, 1947.

At the Cook County Hospital Outpatient Gynecological Clinic the authors have been faced with the problem of treatment of papillomatous and condylomatous masses of the urethra and vulva. The dramatic results obtained in the treatment of the condylomata acuminata, commonly known as venereal warts, with podophyllin by Kaplan, Tomskey, and coworkers, Culp and his associates, and McGregor prompted them to apply its use in the treatment of condylomata acuminata in the female, with special reference to eight cases of condylomatous masses of the urethra—better known as urethral papillomas. The method of treatment consisted of applying the podophyllin ointment (twenty-five per cent) in a hydrosorb base with an orange stick to the surface, sides, cracks, and crevices of the lesions. The adjacent normal skin may be protected by either Lassar's paste, collodin, or a mild anesthetic ointment. After the podophyllin ointment is smeared and spread, reducing its effect when the patient gets up and walks. Thus, to assure proper contact, the patient remains in lithotomy position for twenty to thirty minutes. No immediate reaction is evident, although some pain may result within six to eight hours. The patient is instructed to wash off the medication after three to six hours, using bland soap and water, preferably by getting into the tub. Mild

anesthetic ointment may then be applied over the lesions. During the next twelve hours marked local inflammatory and edematous reaction occurs. On the second to fifth day the lesions usually shrivel and drop off. It is assumed that the action of the drug is by local irritation, causing vascular spasm with resulting ischemia, necrosis, and sloughing. Eight cases of urethral papilloma are reported, all treated with twenty-five per cent podophyllin. Complete disappearance resulted in these cases.

## INDUSTRIAL MEDICINE

By JEAN SPENCER FELTON, M.D.  
Monsanto Chemical Company  
Clinton Laboratories  
Oak Ridge

Employment of Persons with Certain Physical and Neuropsychiatric Impairments. E. Parker Luongo. *Occupational Medicine*, Vol. 3, No. 1, January, 1947.

Dr. Luongo, assistant medical director of the Pacific Indemnity Company of Los Angeles, presents certain points in connection between employment of impaired individuals and workmen's compensation. He feels that the employment outlook for physically and neuropsychiatrically limited workers depends to a great extent on the cooperative efforts, in the future, of several related fields—compensation laws administration, union organizations, rehabilitation, insurance, and the private and industrial practice of medicine.

In compensation law administration, industrial commissions should avail themselves of the services of an impartial consulting board of specialists when dealing with moot cases involving the cause or aggravation of a disease or defect. Such a board could be named by a dean's committee of medical schools or by executive committees of medical societies. The board could review all medical evidence, and its decisions should be binding. This would enhance the quality of decisions from the standpoint of scientific medicine. It is felt that the industrial commissions should give greater recognition to methods of physical restoration, such as occupational therapy, on the job work therapy, supervised health education, and physical training. When supported by competent medical opinion, requests for such treatment should be considered as reasonable by the commission.

Labor organizations should join present thinking in that the law should be administered on the basis of scientific medical evidence. The union can do much in seeing that those who have suffered occupational disease or injury be given an opportunity for work therapy by employers on a limited or full capacity basis.

Rehabilitation agencies, accident commissions, and carriers can insure early work therapy through selective placement and by setting up coordinated working relationships, vocational guidance and training, for those in which disability can be anticipated and where change of occupation is necessary.

Insurance carriers can offer educational services to employers on preventive aspects of industrial medicine and, by so doing, can conserve the remaining psychological and physiological capacities of the impaired workers employed by the assured.

Those engaged in industrial health can protect physically limited workers from aggravation of their disease or defect by stressing preventive medicine as much as traumatic surgery. Good pre-placement physical examination, selective placement, and a constant guarding of environmental sanitation can assist immeasurably.

The private practitioner who infrequently is required to testify on compensation cases should be versed in industrial processes, methods, and hazards so that a thorough history and diagnosis may be obtained. Failure to accomplish this often causes unjustified and even fraudulent claims to gain favorable consideration.

In those large industrial communities where a strong suspicion may exist that a few physicians may be rendering unethical but expert medical testimony, committees of physicians, empowered by local or state societies, should be established for investigative purposes.

## OBSTETRICS

By MILTON SMITH LEWIS, M.D.  
Bennie-Dillon Building, Nashville

Pulmonary Tuberculosis and Pregnancy. A. L. Jacobs.  
*Journal of Obstetrics and Gynecology, British Empire*,  
Vol. 53, pp. 368-376, 1946.

The three main aspects of this problem which are considered in the literature are: (1) Does pregnancy tend to aggravate active disease or to reactivate quiescent disease in the lung? (2) To what extent may tuberculous women be permitted to have children? (3) Is tuberculosis an indication for abortion? Much of the literature has served to obscure rather than to clarify these points. The balance of opinion appears to hold that pregnancy is harmful to the tuberculosis, although today there is a tendency to consider the individual case apart from this generalization.

The author surveys a few representative publications. Rist, in a study of more than 170 cases of pregnancy associated with phthisis, found that more than eighty per cent were worse after the pregnancy, and more than fifty per cent were dead within two years of it. However, adequate consideration is not given to the nature, severity, and extent of the tuberculosis, nor is there control material of cases of equal severity uncomplicated by pregnancy. Many authors supporting the same view are open to the same criticism. Forssner found very little difference in the less advanced cases of phthisis after pregnancy as compared with a control series. However, in the more advanced cases there appeared to be a somewhat less

favorable outcome for the women who had undergone pregnancy.

As to the manner in which pregnancy may exert a harmful effect on tuberculosis, most stress has been laid on mechanical factors: the enlargement of the uterus and the consequent progressive rise of the diaphragm during pregnancy. The restriction of movement of the diaphragm was formerly thought to be detrimental, but more recently this was seen to conflict with the theory of collapse therapy. At present it is held that elevation of the diaphragm during pregnancy is favorable, but that the sudden descent during labor is harmful. This is thought to explain improvement of lung disease during pregnancy, followed by rapid regression after delivery. The author stresses that the factor of great importance ignored by many writers is the influence of social and environmental conditions; that is, the drastic changes and increased burdens which the advent of an infant brings to the woman.

The few studies which exist on therapeutic abortion in tuberculosis have failed to show that an artificially interrupted pregnancy has, in general, any less favorable effect on the course of the lung disease than a full-time pregnancy. Even those who advocate therapeutic abortion are agreed that it must be performed within three to four months of conception. As regards the child, congenital tuberculosis is rare, and provided the infant is protected from infection after birth, its chances for normal development are good.

It is difficult to assess the incidence of tuberculosis associated with pregnancy; and if cases are not to be missed in routine antenatal examination, some form of radiological examination is necessary. In a series of 4,430 pregnant women screened at Paddington Hospital, there were sixty-eight cases of tuberculosis, or 1.53 per cent. Of these sixty-eight cases, .61 per cent were active, 1.25 per cent were possibly active, and .67 per cent were probably inactive.

The management of the pregnant tuberculous patient may be summarized as follows:

1. Therapeutic abortion is of little help. In those cases where it may be indicated, it can be considered only in the first three to four months.
2. Pregnancy is an added indication for prompt application of all possible means of treatment, especially collapse therapy, on the usual indications. Treatment must be continued after labor.
3. Skilled obstetric care must be provided, preferably in the same institution where the tuberculosis is treated.
4. The infant usually must be separated from the mother at birth.
5. Domestic help and financial assistance in the home must be provided where necessary.

## OPHTHALMOLOGY

By ROBERT J. WARNER, M.D.  
Doctors Building, Nashville

**Penicillin Treatment of Eyelid Infections.** Carl A. Noe, Lieutenant Colonel, M.C., A.U.S. *American Journal of Ophthalmology*, April, 1947.

Nine of the fifty-five cases treated developed allergic dermatitis of the lids. This is a higher incidence than is shown in ordinary drug sensitivity. Since normal saline solution and amber petrolatum were used as vehicles, the penicillin must have been the allergin. All cases of dermatitis recovered when penicillin treatment was stopped.

The cultures in these cases showed only staphylococci and streptococci. There were no pneumococci or influenza bacilli reported, although cul-

tures were taken on blood agar. This suggests the possibility of laboratory errors.

The cured cases were in a mixed group, as far as cultures were concerned. Some showed negative cultures, and several of those showing hemolytic staphylococcus were not cured. Spontaneous cures must be considered.

Herpetic keratitis developed in two cases during penicillin therapy.

### SUMMARY AND CONCLUSIONS

The results of treatment of fifty-five cases of conjunctival and eyelid infections with penicillin were tabulated.

Allergic dermatitis was noted in sixteen per cent of the cases.

The results for the group as a whole were not superior to those shown by other forms of therapy. In a few individual cases, however, the results were remarkable.

TABLE I

RESULTS OF PENICILLIN TREATMENT IN FIFTY-FIVE CASES OF EYELID AND CONJUNCTIVAL INFECTIONS

	Cured 1 Wk.	Cured 2 Wks.	Impr. 1 Wk.	Impr. 2 Wks.	Impr. 4 Wks.	Unim- proved
Blepharitis, Chronic					1	2*
Conjunctivitis, Chronic	8	3		4		2**
Conjunctivitis, Acute	6*	2		1*		1*
Recurrent Blepharitis and Conjunctivitis		3	4	5		2**
Chronic Blepharitis and Conjunctivitis	2			2		1
Acute Meibomitis	4*			2		
Totals	20	8	4	14	1	8

Each asterisk equals one case of lid dermatitis.

## PROCTOLOGY

By O. C. GASS, M.D.  
401 Medical Arts Building  
Chattanooga

**Significance of Hyperuricemia in Surgery.** Bernard J. Ficarra, M.D., Brooklyn, New York. *American Journal of Surgery*, Vol. 73, No. 3, March, 1947.

(This abstract, while not directly concerned with proctology, is vitally important to the proctologist because the condition herein described is frequently seen after a radical resection of the rectum.)

Upon observing patients during their postoperative care, gouty arthritis was reported in five cases. The underlying physiologic disturbance for this complication showed hyperuricemia subsequent to hypoproteinemia to be the major factor. Because of this, our interest concerned the role of uric acid in the surgical patients.

As an empirical measure a uric acid level was determined in all patients with a lowered blood plasma. Initially the majority of patients studied had gastric or rectal cancers. Any patient displaying marked proteins loss was investigated, this including large draining wounds, peritonitis, and empyema. In the presence of a hypoproteinemia

there was an elevation in blood uric acid, wherein hyperuricemia was revealed in some postoperative patients inadvertently deprived of an adequate protein intake.

An elevated uric acid results because the patient attempts to replenish his protein deficiency through endogenous protein secured from his own body. Clinically this is revealed in the loss of strength and weight. Chemically it can be demonstrated by an elevated uric acid. The greater the hyperuricemia, the more accelerated is the rate of endogenous protein metabolism. An increase in endogenous uric acid produces an increase in blood uric acid above the normal level (three milligrams per 100 cubic centimeters of serum or whole blood); a uric acid elevation above this normal figure indicates a true hyperuricemia. Additional physiologic processes assist in the production of hyperuricemia. In neoplastic and other debilitating diseases there is a depletion of both protein and body glycogen. The liver supplies the needed glycogen, and muscle tissue gives forth the demanded protein. In a surgical patient with a minimal protein intake the stimulus to uric acid excretion is removed and the hyperuricemia is further increased.

In considering hyperuricemia, other causes for an elevated blood uric acid must be remembered. The status of the liver and kidneys can be deter-



mined by specific chemical tests. When the liver and kidneys are not primarily impaired, the pre-existing hypoproteinemia accelerates endogenous purine metabolism. This accelerated endogenous metabolism results in hyperuricemia. The significance of hyperuricemia is that it is an indication of the degree of endogenous protein metabolic activity. Thus a graphic picture of the patient's nutritional state can be evaluated by a physicochemical analysis of the blood. It has been found that hypoproteinemia usually is associated with hyperuricemia. The lower the protein level, the higher will be the uric acid level. An intelligent interpretation of serial blood uric acid in association with blood protein determinations will indicate the balance between exogenous and endogenous protein metabolism. Thus these studies may be employed as a prognostic guide to the nutritional state of the surgical patient.

### UROLOGY

By BURNETT W. WRIGHT, M.D.  
Doctors Building, Nashville

Sympathetic Tumors Arising from the Suprarenal Medulla; Report of Case. Robert W. Hunt, M.D., F.A.C.S., and John O'Flanagan, M.D., New York City. *Urologic and Cutaneous Review*, December, 1946.

Tumors of the suprarenal medulla are relatively rare. They can be divided into two general groups—one, commonly called neuroblastoma, and the other, the chromaffin cell tumors. The neuroblastomas are clinically characterized by their high malignancy, with metastases and a poor prognosis; the chromaffin cell tumors, by the syndrome which they present, namely, that of instability of the sympathetic nervous system.

Although textbooks of urology devote little space to these tumors because of their rarity, a discussion of them, with the presentation of an unusual case, would seem of sufficient interest for a special article. The author's pathologist has placed this case in the neuroblastoma group.

Pathologists have set up several classifications. Scott, Oliver, and Oliver, in 1933, made a very extensive study of the literature and collected 162 cases reported to that date. Their article contains an excellent discussion of the structure of this tumor from the pathologists' point of view. Like most others, they give a hopeless prognosis to these cases. Hepler, in 1943, added a case and pointed out that all cases, including his own, are not hopeless. Farber, in 1940, also pointed out that not all cases, as based on his and his associates' experience in Boston, are hopeless.

The only successful treatment has been surgical removal of the tumor. It is evident that the older

the patient, the less malignant the tumor. Also, while most of these tumors arise from the suprarenal medulla itself, they may arise from suprarenal rests elsewhere in the body. Such rests are not too rare and are frequently found in the kidney. The case reported here is an example of a suprarenal medulla tumor of low-grade malignancy arising from a rest in the kidney of an adult and giving no clinical symptoms other than the tumor mass itself. The case was successfully treated by surgical removal of the tumor, as shown by a five-year follow-up.

### BOOK REVIEW

*A Bibliography of Infantile Paralysis, 1789-1944.* Compiled by Ludwig Hektoen, M.D., Editor, Archives of Pathology, and Ella M. Salmonson, Medical Reference Librarian, John Crerar Library. Edited by Morris Fishbein, M.D., Editor, Journal of American Medical Association. Pp. 672; price \$15.00; cloth. Philadelphia: J. B. Lippincott, 1946.

An exhaustive bibliography with selected abstracts and annotations of infantile paralysis from 1789 to 1944. The abstracts total 8,320, and the material is arranged in chronological order. In addition, there is an authors index and subject index. The book should find its greatest use in hospital and medical school libraries. The publication was prepared under the direction of the National Foundation for Infantile Paralysis.

W. P. H.

*The Compleat Pediatrician.* W. C. Davidson, M.A., D.Sc., M.D., Professor of Pediatrics, Duke University School of Medicine, and Pediatrician, Duke Hospital. Pp. 256; price \$3.75; cloth. Durham, N. C.: The Duke University Press, 1946. Fifth edition.

Nothing can be added to what has been said about this valuable book. Other reviews have stated: "Amazing collection of facts, properly assessed for the practitioner's point of view"; "Invaluable to the general practitioner"; "Has no equal in pediatric literature"; "Most valuable reference book for every medical student or physician."

The new edition, in which 10,000 lines have been changed, has been published because of the vast accumulation of pediatric information during the past four years, particularly in chemotherapy, infectious and tropical diseases.

It is important that the Preface and Instructions be read before using this book. Any practitioner that is treating pediatric age patients will find *The Compleat Pediatrician* an invaluable aid in his practice.

W. P. H.

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## **PRESENT-DAY MANAGEMENT OF EARLY SYPHILIS\***

**DUDLEY C. SMITH, M.D., Charlottesville, Virginia†**

Syphilis is one of the major problems facing the medical profession and the citizenry of the world. Early syphilis is a preventable and curable infection. The discovery or location of all cases in the earliest stage by widespread use of serologic tests and intensive, tactful, contact tracing followed by the use of rapidly acting treponemocidal drugs will decrease the spread of this condition. Adequate therapy, using "multiple attack" (penicillin, arsenic, bismuth, etc.) for a sufficiently long period of time, permanently cures this malady.

This specific, contagious disease, usually associated with sex activities of the people, has been the stimulation for a great many important events in past history, including prose and poetry, political maneuvers, war activities, scientific investigation and other human efforts before and since the time of Columbus. So much has been written and said about this "plague of mankind" that most of the statements and comments here will be repetitious; nevertheless, I will risk censor on this ground with the hope of stimulating a greater interest and effort on the part of some of you to combat this condition. You are clearly aware of the high incidence of syphilis, the great variety of its clinical manifestations and the seriousness of its effect on the mind, body, and offspring.

In spite of the effect of this condition in past history, most all of our scientific knowledge about it has been discovered during the 20th century. Before 1905, the disease was diagnosed entirely on clinical evidence which entailed a high percentage of error and caused postponement of treatment during the infectious stage. The case was watched until the generalized eruption occurred (which did not always develop) and then treatment was slow and inadequate. Nevertheless, there were a number of enthusiastic workers in the field of syphilis before this century, notably, Sir John Hunter (1728-1793) and the great French physician, Phillippe Ricord (1800-1889). Ricord proved that the several "venereal" diseases were the result of different causative agents. His influence on the scientific and practical aspects of this disease was marked and his enthusiasm stirring. He was described by Dr. Oliver Wendell Holmes as "The Voltaire of pelvic literature—a skeptic as to the morality of the race in general, who would have submitted Diana to treatment with his mineral specifics and ordered a course of blue pills for the vestal virgins."

The milestones in our present day knowledge of this disease are as follows:

(1) The discovery of the specific cause (*Spirochaeta pallidum*) by Schaudin in 1905.

(2) The application of the theories of immunological reactions to the development of diagnostic tests on the blood and body fluids by Wassermann in 1906.

\*Read at the 112th Annual Meeting of the Tennessee State Medical Association, April 8, 1947, at Memphis, Tennessee.

†From the Department of Dermatology and Syphilology, University of Virginia, Charlottesville, Virginia.

(3) The systematic and laborious work of Erlich to find an effective curative substance in 1910. This resulted in a revolutionary change in all specific therapeutic approach in medicine.

(4) The addition of the resistance building metal, bismuth, by Levaditi, in 1921.

(5) The corollation and evaluation of treatment method by the "cooperative clinical group" and others during the third and fourth decades of the 20th century.

(6) The emphasis on the importance and suggestive technique of the application of common sense public health procedures in finding source cases and infected contacts of syphilitics by the writer and associates in 1933<sup>1,2,3</sup>. This made an early diagnosis possible, prevented further transmission, and increased the possibility of cure.

(7) The promotion of rapid treatment schedules, thus shortening treatment time and decreasing the high delinquency rate by Chargin and associates in 1936.

(8) The introduction of penicillin by Mahoney and co-workers in 1942.

These eight major forward steps in the knowledge of the diagnosis and treatment of syphilis have been accompanied by many other significant advances in this field. We are now in a position, both from the standpoint of scientific knowledge and sociological opinion, that this condition which causes so much economic waste, morbidity, mortality and mental agony can be stamped out if the medical profession will only apply this information universally.

This is a discussion limited primarily to early syphilis. The term early, however, is misleading because a patient with a chancre has had a septicemia with *Spirochaeta pallida* for from two to six weeks and a case of secondaries for a longer period of time. Acquired early syphilis rarely kills and causes little morbidity, but its cure pre-

vents the later serious stages of this disease in all parts of the human body. An illustration of the potentialities resulting from the eradication of syphilis would be a decrease of 15% in cardiovascular disease. Definite headway was being made in this country before the last world war in decreasing the incidence of syphilis. This downward trend has been disrupted, as it usually is, by wartime conditions.

There are a number of reasons for the limited application of the scientific knowledge available against this illness. Sexual transmission with its moral aspects has been an almost insurmountable difficulty, but actually transmission by this type of close contact makes the source of infection easier to determine. Another handicap has been the deficiencies in undergraduate and graduate teaching in this field of clinical and public health medicine. An attitude of aloofness on the part of many physicians and specialists along with the lack of knowledge and interest toward this condition has resulted in many cases going undiagnosed.

The average physician and specialist does not often look beyond the syphilitic patient. He shies away from seeming to seek patients and becoming embroiled in domestic affairs. This is false professional ethics, but if the doctor in the case does not prefer to follow-up and follow-back, he should transfer the patient to a physician interested in this subject or to a public health clinic.

The epidemiology of a disease includes a study of all the factors having to do with its transmission and of all the means available for preventing it being conveyed to others. This is a well understood and practical field in present-day medicine and if the 150,000 physicians in the United States would do their full share in regard to syphilis, it would help to decrease the trend toward governmental medicine. This is a real challenge. It is the responsibility of the medical profession to detect these persons with syphilis and administer the sterilizing and curative remedies. This is a worthy and desirable undertaking, prob-

<sup>1</sup>Smith, D. C., and Brumfield, W. A., Jr., Tracing the Transmission of Syphilis, J.A.M.A., Vol. 101, Dec. 16, 1933.

<sup>2</sup>Brumfield, W. A., Jr., and Smith, D. C., Transmission Sequence of Syphilis, Amer. Journ. Pub. Health, Vol. 24, June, 1934.

<sup>3</sup>Smith, D. C., Practical Epidemiology of Syphilis, J.A.M.A., Vol. 107, Sept. 5, 1936

ably the major health problem of the time possible of accomplishment.

If the entire population through one generation should be examined serologically and clinically at intervals for syphilis and every infected person promptly given the minimum standard of modern therapy, the campaign against this malady would be won. No such action is possible. The approach must necessarily be slower, but the pace should and can be accelerated.

Another way of attacking this transmissible infection is by tracing source cases and the follow-up of contacts of syphilitic patients. The principle of this approach

is identical with that used in the control of other infections. During the routine history and examination of the patient, the characteristics of the disease are explained. This includes transmission, pathology, complications, standard of treatment and the probable outcome. Language that the individual patient can comprehend is used. The moral aspects are minimized and the medical phases are emphasized. Every effort is made to impress the patient that all information obtained is confidential. Every case of syphilis diagnosed presents an opportunity for discovering other foci of infection.

The role played by mechanical and chemical prophylaxis in the total program is difficult to evaluate, but has possibilities. The results under a military regime are not obtainable in civilian practice. We must face the fact that the eradication of syphilis is an easier task than the changing of the sexual habits of the population.

The preventing of syphilis in those exposed to known infectious cases by giving sterilizing amounts of a spirochaetal agent has theoretical possibilities. This is really a system of treating syphilis in the incubation period before clinical evidence appears, at a time complete cure is easiest.

The contacts of a case of early syphilis should be examined thoroughly clinically and by laboratory tests each week for about three months. The details of these examinations and their interpretations are discussed elsewhere.

When relapsing or recurrent lesions appear on the skin or mucous membrane, the danger of transmission to associates is considerable. These painless, frequently unnoticed lesions, teaming with *Spirochaeta pallida*, account for a large number of accidental or innocent infections. A person with mucous erosions in the mouth can spread a lot of spirochaetes by coughing.

There is directly or indirectly involved in the proper management of early syphilis many ramifications in addition to medical knowledge. Sociology, psychology, religion, human relations, youth delinquency, economics, administration, etc. are to be considered along with a knowledge of phys-

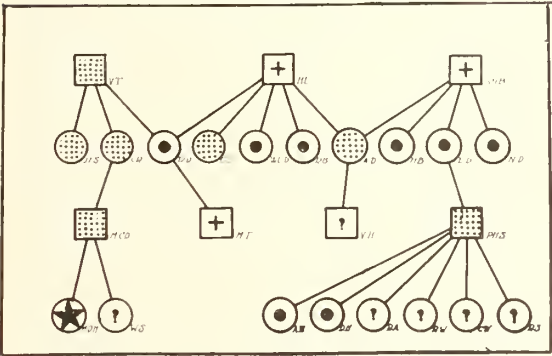
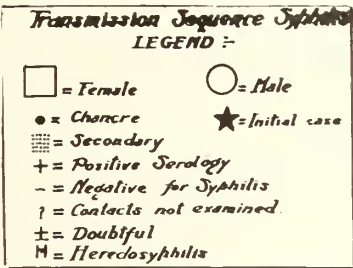


CHART 1—Result of tracing source cases and contacts beginning with a male patient with a chancre. Twenty-five names were obtained, nineteen persons were examined and all were found to have syphilis. The other six contacts were sent letters advising that they be examined.

FOLLOW UP AND FOLLOW BACK OF EARLY SYPHILITIC INFECTIONS AND CONTACTS									
Infected Cases	Exposed Contacts								
	Named	Individuals Represented	No per Case	Admissions to Clinic				Estimated Infected	
				Total	Cases Infected	Total	Cases Infected	Total	No per Case
207	511	421	2.03	171	40.6	126	73.7	316	1.52

CHART 2—Result of tracing the transmission of syphilis.



iology, immunology, pharmacology, toxicology, pathology, laboratory diagnosis and clinical variations. All these terms and aspects may seem to add up to a very difficult subject, but actually all these features are day-to-day undertakings of medical men. Most patients are in the age group with few abnormalities and can endure considerable "hammering" if necessary. Average knowledge with tactfulness and energy are the basic requirements for satisfactory treatment of early syphilis.

It is my opinion that if greater public health effort be directed to stimulating an increased interest and technical skill of the 150,000 doctors of America, that the goal of eradicating syphilis would be reached sooner than if the available funds and resources be spent on public clinics and non-medical activities.

Early syphilis can be further subdivided into several stages. These are (1) incubation period, (2) seronegative primary, (3) seropositive primary, (4) secondary, (5) recurrent, and (6) early latent. The diagnosis in all these subdivisions is dependent on laboratory findings rather than clinical characteristics. Clinical evidences (history or presence of lesions) are suspicion arousers. The final diagnosis should never be made on clinical characteristics alone, no matter how nearly the lesion confirms to the "text-book" description. Doubtful laboratory reports, whether a microscopic or a serologic test, should not be considered as definite confirmatory evidence either, but merely an indication for repeating the procedure. *Never give a patient local or systematic antisyphilitic treatment before definitely positive laboratory reports confirm the diagnosis.*

Darkfield examination of serum from a suspicious lesion may show the specific organism before the serological tests become positive. The patient is referred to the laboratory examiner in most cases. The serum may be obtained directly from the lesion or from an adjacent lymph node. The latter is frequently positive when the former is negative due to antiseptic applications. The deferred darkfield examina-

tion can be used when equipment and a trained examiner are not easily available. The serous exudate is collected in capillary tubes. The ends of the tubes are sealed by pressing them into wax or vaseline. This material can then be mailed to a diagnostic laboratory.

*Darkfield examination of serum obtained by lymph node puncture is a means of making a diagnosis of syphilis before the appearance of the chancre. This examination should be done in all sex contacts of infectious syphilitic patients.*

The interpretation and evaluation of serological tests for syphilis will not be discussed here now in detail. It should be emphasized, though, that doubtful or weakly positive tests are not diagnostic and that all tests should be repeated to rule out technical error. Titered tests give added diagnostic information and are better indications of therapeutic response. Serologic tests should be repeated at monthly intervals for one year after discontinuing treatment. If the tests become and remain negative for a year and there are no clinical evidences of progression or relapse, the patient can be discharged as "cured."

A routine spinal fluid examination should be made during the first few weeks of treatment. If the fluid is abnormal, treatment should be intensified and continued longer. If normal, it need not be repeated unless relapse occurs.

Syphilis is a relapsing disease. There is always a delicate balance between the resistance of the human body and the activity of the organism. The local and systemic reactions against the *Spirochaeta pallidum* protects usually from rapid and serious involvement in human tissues, but this immunity is not complete. The ratio of protective influences varies to some extent with the number and sites of involvement of the invaders. The antagonistic response of the body varies with stages of the infection and with the general basic health of the patient. A diagram illustrating the natural course of syphilis, based on the parasite host reactions, is recorded by

Morgan<sup>1</sup>. An extreme example of the lack of proper immunologic response is malignant syphilis.<sup>2</sup> It is the opinion of most authorities that lack of "fight" is more important than an increase in the virulence of the strain of spirochaeta. This points out the importance in the treatment of syphilis of raising the health level of the patient to the highest degree possible. Adequate nutrition, regular rest, removal of focal infection and correction of associated abnormalities is of major importance in curing syphilis. Specific therapy is only an additional, but necessary factor.

Arsenoxide (clorarsen, mapharsen or phenarsen) has replaced the arsphenamines because of its equal effectiveness and much lower toxicity. It should be administered twice a week. Alone, 1200-1400 milligrams cures about 75% early syphilis. The toxicity varies with the time, that is, if given in five days, the reactions are more frequent and severer than if given over a period of several months.

Insoluble bismuth subsalicylate in oil suspension in about 2000 milligram total dosage, when added to arsenic therapy, increases the cure rate about 15%.

Penicillin, on preliminary evidence, seems to be a very effective antisyphilitic agent and its toxicity is very low. Its final place in syphilotherapy is not yet determined, nor have the correct time-dosage schedules been ascertained. The most effective factor (F, G, X, etc.) is not yet known. Penicillin K is definitely inferior. There are other antibiotics being used experimentally which may be superior to penicillin in the treat-

ment of syphilis. The unified and centralized investigative studied on this subject sponsored at first by the National Research Council and now by U. S. Public Health Service will result in a final conclusion being reached sooner than it took in the case of arsphenamine.

Fever therapy has a place in the treatment of early syphilis, particularly the resistant and relapsing cases and those with positive spinal fluids.

The administration of penicillin causes spirochaeta pallida to disappear from surface lesions quickly (six to eighteen hours), promotes rapid healing of early lesions and there follows a decreasing serologic titer to negative in many cases.

The overall results with penicillin in the University of Virginia Hospital are summarized in Tables 1 and 2. The results are not as good as was hoped for at first. It is probable that some of the commercial penicillin used in these cases was inferior. However, penicillin G has been used since July 1, 1946 and the relapse rate with it is too high. These summaries are of cases treated from March, 1944, to January, 1947.

TABLE No. 1

EARLY SYPHILIS TREATED WITH PENICILLIN*				
Time	1-6	6-12	12-18	18
	Mos.	Mos.	Mos.	Mos.*
Total Observed	249	180	103	63
Negative	148	133	88	60
Improved	77	24	7	..
Clinical Relapse	20	13	3	..
Sero-Relapse	4	10	2	1
Sero-Resistant	..	..	2	1
Reinfection	..	..	1	1

<sup>1</sup>Morgan, H. J., Comments on the Syphilis Problem in the United States, South. Med. Journ., 26: 18-22, Jan., 1933.

\*The dosage schedules varied from 600,000 U. in 4½ days to 9,600,000 U. in 21 days and some cases received arsenic and bismuth.

TABLE No. 2

Total Observed	Negative		Improved		Clinical Relapse		Sero- Relapse		Total Relapse		Sero- Resistant		Reinfection	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1-6 Mos.—249	149	59.5	77	30.9	20	8	4	1.6	24	9.6				
6-12 Mos.—180	133	74	24	13.3	13	7.2	10	5.5	23	12.8				
12-18 Mos.—103	88	85.4	7	7.9	3	3.4	2	2.3	5	5.7	2	2.3	1	1.0
18-30 Mos.—63	60	95.2	0	0	0	0	1	1.6	1	1.6	1	1.6	1	1.6

Total Failures (Relapse and Seroresistance) = 21.3%.

Total Short-time "Cures" = 78.7%.

Table #3

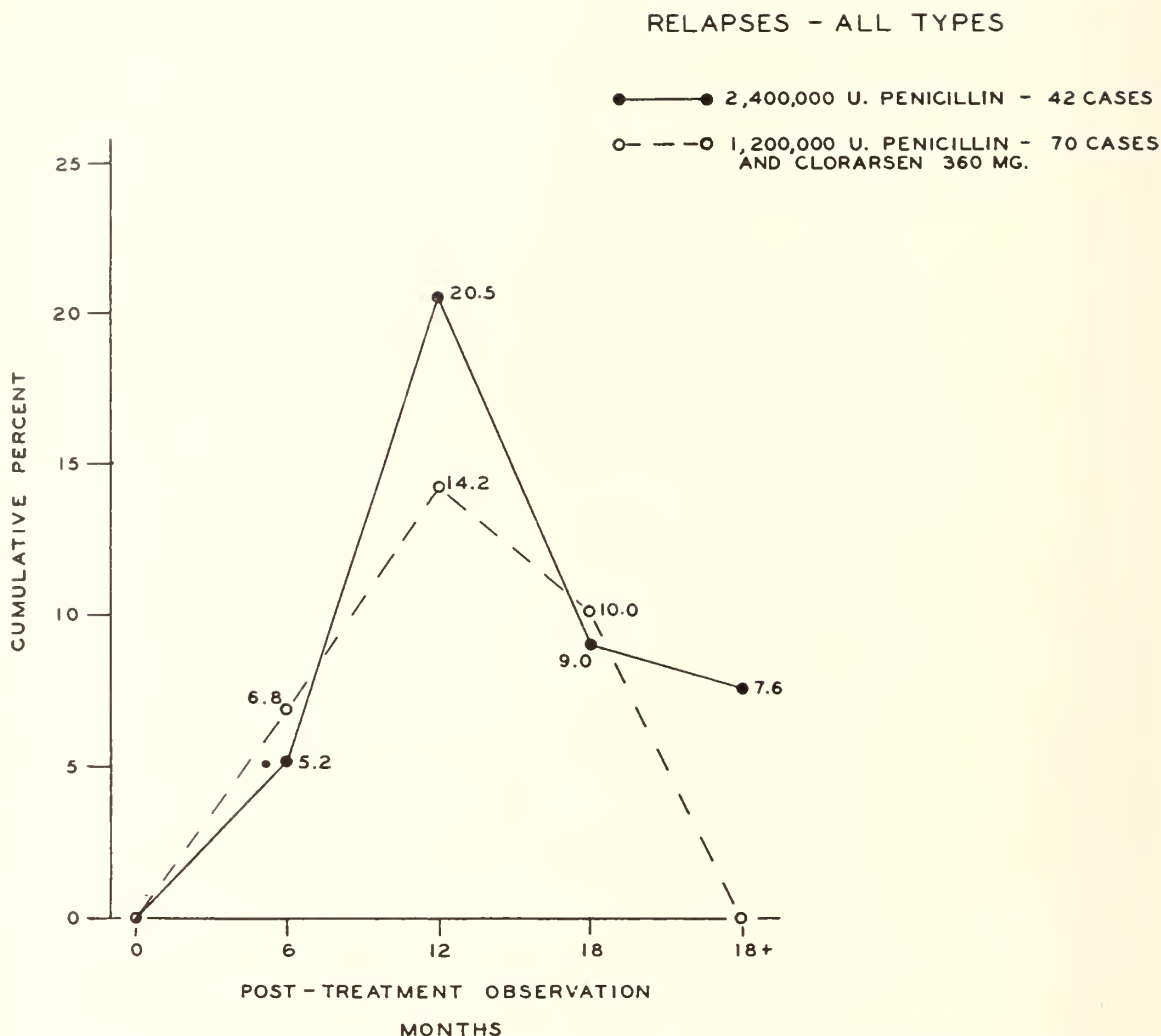


Table No. 3 compares the results obtained in 42 cases treated with 2,400,000 units of penicillin in eight days (40,000 units every three hours intramuscularly for sixty injections); and the results in 70 cases treated with 1,200,000 units of penicillin and 360 milligrams of clorarsen in eight days. The failure rate is lower with the latter schedule.

It has been found that the combination of penicillin and arsenic and bismuth has a higher therapeutic index than either alone. This has been discussed as "synergistic action," but I prefer to think of this result as "additive action." Penicillin will be lethal

to most of the spirochaetes in the body, arsenoxide will destroy some of the Spirochaetal population resistant to penicillin and then bismuth also has definite Spirochaeticidal action in addition to its resistance-building property. This illustrates "multiple attack," some organisms being more vulnerable to one agent, and some to another. There are available a number of chemotherapeutic agents in the treatment of this disease. When a case does not respond satisfactorily to the regular routine, other schemes and substances can be employed.

The completely curative non-toxic time-dosage schedule is not now known. On the



## TREATMENT SCHEDULE FOR SERONEGATIVE EARLY SYPHILIS

Penicillin	Aqueous — 40,000 U. — I.M. — q 3 h — 7½ da. = 2,400,000 U.
	or
	Oil & wax 300,000 U. — I.M. — daily — 8 da. = 2,400,000 U.
and	
Arsenoxide*	40 mgm. — I.V. — 2 x weekly — 8 weeks = 640 mgm.
and	
Bi.	
Subsalicylate*	200 mgm. — I.M. — 1 x weekly — 8 weeks = 1600 mgm.

\*Arsenic and bismuth started on 2nd or 3rd day.

## TREATMENT SCHEDULE FOR SEROPOSITIVE EARLY SYPHILIS

Penicillin	Aqueous — 50,000 U. — I.M. — q 3 h — 10 da. = 4,000,000 U.
	or
	Oil & wax 400,000 U. — I.M. — daily — 10 da. = 4,000,000 U.
and	
Arsenoxide*	40 mgm. — I.V. — 2 x weekly — 12 weeks = 960 mgm.
and	
Bi.	
Subsalicylate*	200 mgm. — I.M. — 1 x weekly — 12 weeks = 2400 mgm.

\*Arsenic and bismuth started on 2nd or 3rd day.

basis of the characteristics of syphilitic infection in the human and our knowledge of therapy at present, I offer the following schedules as being nearly perfect. These are outlined on the basis of a probable cure-rate of near 100% and a low order of toxicity. The dangers from arsenical intoxication can be largely controlled by the prompt use of BAL (British Anti-Lewisite).

The time factor in these schedules is relatively short—eight to twelve weeks. The delinquency rate should be much lower than that with older long courses of treatment. Most of the therapy is administered during the first and second weeks. This intensification is at a time when the patient is either hospitalized or is willing to return regularly.

## SUMMARY

1. Syphilis is a major problem confronting the medical profession.
2. Scientific knowledge and sociological attitude have reached the state which

makes it possible to wage a successful campaign against this transmissible infection.

3. Diagnostic, epidemiologic and therapeutic measures are summarized.
4. Penicillin alone does not cure a large percentage of early syphilis, regardless of dosage.
5. The relapse rate with all short rapid treatment schedules is high.
6. Therapy should be continued for at least eight to twelve weeks in early syphilis, using penicillin, arsenic and bismuth.

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# EPIDEMIOLOGY AND RECENT DEVELOPMENTS IN POLIOMYELITIS\*

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**INTRODUCTION:** Poliomyelitis as a disease has attracted the attention of lay individuals, laboratory workers and members of the medical profession for well over a century and a half. The recognition of the existence of the disease is noted by many as dating back to 1600 B.C. Actually the first good clinical description of the disease is made by Underwood in a paper entitled "Debility of the Lower Extremities" published by J. Matthews in London, England in 1789.

In recent years a great deal of interest has been manifest in this disease and but few diseases can boast as much interest as has been centered around poliomyelitis. This interest has centered around the mode of transmission of the disease, prevention and treatment. A great deal of progress has been made along these particular fields, but the sum total of our knowledge of the disease is still rather limited—limited at least from the point of view of practical application.

**ETIOLOGY:** Although there are proponents of the bacterial etiology of the disease, it is generally recognized that the causative agent is a virus. There is also general agreement that the poliomyelitis virus is a neurotropic virus which probably is disseminated through the body passage along the nerve fibers. More specifically, Toomey<sup>1 2</sup> believes that the virus travels best along non-medullated or gray nerve fibers.

In 1909 Flexner and Lewis<sup>3</sup> described a virus as the etiological agent of this disease and described in detail their experimental work with the M. Rhesus monkey. By cerebral inoculation of macerated spinal cord tissue, experimental animals developed a disease closely simulating infantile paralysis. The isolation of this virus and experimental work herein described have been repeated many times since.

**THE PORTAL OF ENTRY:** Although it is generally agreed that the virus of poliomyelitis is a neurotropic virus which enters the central nervous system by traveling along nerve tracts there has been no agreement as to ways and means by which this virus reaches the nerve tracts. There are two concepts which may be mentioned as to the portal of entry of the virus, namely the nasopharynx and the intestinal tract.

Toomey<sup>1 2</sup> is the principal proponent of the gastro-intestinal route of entry. By experimental inoculation of the virus into the gastro-intestinal tract, Toomey was able to produce a disease in monkeys which simulated poliomyelitis. However, he was obliged to create severe stagnation of the gastro-intestinal tract before he could promote the development of this condition in his experimental animals. Other investigators are of the opinion that such unusual stagnation is probably non-existent normally and therefore the gastro-intestinal work of Toomey and his associates should be looked upon as additional good scientific information without a great deal of practical application value.

Sabin and his associates<sup>4</sup> are proponents of the olfactory route of entry. This theory probably has more supporters than any other theory. Proponents of the theory point out that the virus has been isolated from the nasopharynx of cases and apparently healthy carriers; further that the epidemiological characteristics of the disease suggest a droplet type of infection. Supporters of this theory also point out the ease with which entrance into the olfactory system might be brought about through the nasopharynx. Certainly the virus has been isolated in acute cases from the nasopharynx. All of these facts taken together are strongly suggestive of the nasopharyngeal route of entry of the virus.

**ESCAPE:** The escape and liberation of the virus from the human body have been repeatedly studied and innumerable publications are available for study.<sup>5</sup> The virus of poliomyelitis has been isolated from the

\*Read before the Tennessee State Medical Association, Memphis, April 8-10, 1947.

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stools and nasopharynx of apparently healthy carriers and persons acutely ill with the disease. The virus in the nasopharynx is usually present only for relatively short periods of time. The virus, however, may be present in the gastro-intestinal tract weeks before the onset of clinical symptoms<sup>c</sup> and for months after the acute symptoms have subsided. There is of course a question which arises in the minds of investigators as to whether or not the primary localization of the virus is in the upper respiratory tract and that the gastro-intestinal localization is secondary and is brought about by the swallowing of sputum contaminated with the virus.

**RESERVOIRS:** Although extensive research work has been directed at the recognition of reservoirs of this virus, there is but one definite reservoir known, namely, that of the human being. The reported recovery of the virus of poliomyelitis from a mouse found dead in a home where there had been a case of poliomyelitis only adds greater confusion to an already confused situation. To the best of the speaker's knowledge, this finding has not been repeated. Fowl, birds, rodents and various other animals have been examined but without a satisfactory recognition of the poliomyelitis virus.

The virus has been isolated from sewage<sup>7</sup> and it has been shown that it will resist<sup>8</sup> the effect of chlorine in concentrations of 0.5 per 1,000,000 parts for over a half hour. There have been variously reported outbreaks which according to the epidemiological evidence would tend to incriminate food and milk, but all of these factors are affected by missing links of information and certainly it has been repeatedly pointed out that the pattern of behavior of poliomyelitis is such that it does not correspond with the characteristic behavior of food or water-borne infections.

The recognition of the virus in the nasopharyngeal secretions of persons affected with the disease and the recognition of the virus in sewage<sup>9 10 11</sup> and its presence in the stools of apparently healthy persons<sup>12</sup> lend emphasis to the significance of the human reservoir. The repeated recognition of the

virus in apparently healthy human carriers and the rapid development of the carrier state is reported by Brown, Francis and Pearson. Certainly the report of the recognition of the virus of poliomyelitis nineteen days before the development of clinical symptoms in the stool of an apparently healthy individual<sup>13</sup> is a notable contribution to the knowledge of poliomyelitis.

**MODE OF TRANSMISSION:** There is no definite agreement as to the mode of transmission of this disease. The virus of poliomyelitis has been isolated from the nasopharyngeal washings of apparently healthy individuals as well as those suffering from the disease. It has been isolated from sewage, from food and from the gastro-intestinal tract of flies. This wealth of confusing facts only lends further confusion to the possible ways and means by which this disease is transmitted. It has also been proposed only because of some epidemiological evidence that possibly the disease is transmitted by insect vectors.

Certainly the epidemiological characteristics of the disease are such that they do not coincide with water or food-borne diseases. Water and food-borne epidemics are usually explosive in nature and affect large numbers of people simultaneously. Usually epidemics of poliomyelitis are progressive, develop gradually, show evidences of radial spread and reach their peaks within several weeks from the date of onset. The distribution of cases within the area affected is scattered with occasional aggregation, while in water-borne epidemics the distribution is somewhat more uniform. The attack rate of poliomyelitis in urban epidemics seldom exceeds one per one thousand and in rural epidemics the attack rates seldom exceed three per thousand. In food and water-borne outbreaks the attack rate among exposed persons is usually much higher.

One cannot too emphatically discount the food and water bases as the modes of transmission because as has been noted many times the rate of infection with poliomyelitis virus probably far exceeds the incidence of reported cases. Proponents of the food and water-borne mode of transmission



therefore have this very important argument in their favor.

Probably the oldest and the best theory of the mode of transmission of poliomyelitis is that of person to person contact and drop-let infection. Certainly the number of persons succumbing to the disease who have had contact with other cases is statistically significant. In investigation which has been carried on evidence of contact with cases has been reported as high as sixty to eighty per cent. There are contradictory points to this method of transmission. The low secondary attack rate, intra and extra-familially, is certainly suggestive of some important extrinsic or intrinsic factors limiting the occurrence of secondary cases. There is also the important fact that additional cases in families and households may develop in subsequent years in persons who escaped the first exposure.

**AGE, SEX AND RACE DISTRIBUTION:** The disease affects primarily persons between the ages of five and fourteen years of age with a reasonably high incidence under four and with greatest concentration of cases between five and nine years. The disease does, however, affect persons of all ages and the speaker has had the experience of seeing a case seventy years of age and has seen poliomyelitis in a new-born infant.

By sex, the distribution of the disease shows a somewhat greater incidence among males than among females, the ratio being approximately 1.4 males to 1 female. A great deal has been said and written about the racial distribution of poliomyelitis depending almost entirely upon the section of the community or section of the country which is affected. The speaker and his associates have not been able to show any difference in the race distribution of poliomyelitis. By individual epidemics difference of significant amount has not been noted, but over a period of many years the attack rate among Negroes and whites is approximately the same. The differences which have been noted in attack rate by race were due to geographic or area location of the epidemic.

The rural as against the urban incidence of the disease is noteworthy. In the most severe urban outbreaks the incidence of the disease seldom exceeds one per 1,000 population while in rural areas when epidemics occur the attack rates are two or three times as great as in urban areas. As a matter of fact the actual incidence of the disease—the rural against urban—shows a much greater incidence in the rural areas than in the urban. The rural incidence of poliomyelitis is so much greater that this disease is frequently referred to as primarily a rural disease. The Henderson County outbreak of 1945 in your own state is a good illustration of this theory.

**SEASONAL VARIATION:** There is a definite seasonal variation of the disease. It has been repeatedly noted that poliomyelitis has an apparent selective occurrence both as to season and individuals. Epidemics seem to occur in Summer and early Fall and as previously noted, clinical poliomyelitis affects but a very few persons who live in the epidemic area.

The seasonal variation is of significant epidemiological importance because coupled with this seasonal variation is the fact that the incidence of paralytic disease in areas where seasonal changes are not so radical is considerably lower than in the more temperate climates where the seasons change and change radically. This has been brought about by the prognostication that possibly there is something in the physiology of the human being which in part at least is related to the possibility of successful and clinical invasion of the virus. In other words, the prognostication is that a certain percentage of the people in these areas fail to make adequate physiological adjustments with the varying climate and season with the end result that the infection with poliomyelitis virus results in clinical disease. On the other hand, the person whose physiology follows a more favorable pattern of adjustment is infected but escapes clinical disease.

**PRE-DISPOSING FACTORS:** There is a great deal of evidence to suggest that there is a hereditary predisposition to poliomyelitis and that the clinical disease is

prone to recur in families. This fact is proposed along with drawing attention to the fact that the incidence of secondary cases in households during the same epidemic is rather infrequent. In a survey of the incidence of poliomyelitis in families, Aycock pointed out that 51 per cent of the cases gave a history of disease among relatives while only five per cent of his controls gave a similar history.<sup>14 15</sup>

Further investigations by other workers, notably Adair and his associates<sup>16</sup> confirm this familial predisposition to poliomyelitis. There have been attempts by Aycock and Draper to associate the disease with endocrine imbalance and to point out that certain constitutional types<sup>17</sup> are more apt to acquire clinical poliomyelitis than are others. Aycock further suggests that susceptibility may reside in a subclinical endocrine difference and more particularly a subclinical difference between periods of growth and development. These theories needless to say cannot be completely ignored but evidence to the contrary is proposed by other investigators.

Aycock also points out that there appears to be a predisposition to attacks of poliomyelitis among pregnant women. He noted that poliomyelitis is associated with pregnancy about four times as frequently as it would be expected in non-pregnant individuals. The closer examination of this relationship shows that the greatest risk occurs in the second and third trimester of pregnancy.<sup>18</sup>

Here again Aycock draws attention to the fact that this may be associated with some endocrine disturbance. Experiments have been attempted by Jungblut to associate the incidence of the disease with Vitamin C deficiency. Helm<sup>19</sup> has proposed that Vitamin B is the major factor for increased susceptibility for the virus and Weaver in turn<sup>20</sup> in his experimentation with cotton rats was unable to show any relationship between Vitamin B deficiency and the poliomyelitis virus.

It is conceivable therefore that the endocrine and vitamins, or the lack of endocrines or vitamins, is associated with susceptibility to clinical poliomyelitis. If there

is an intimate association the method of its operation is not clearly understood.

Certainly from the overwhelming amount of information which is available, it is obvious that the incidence of infection with poliomyelitis virus far exceeds the reported incidence of clinical disease.

It has also been noted by some investigators that trauma, over-exertion and exhaustion are predisposing to clinical poliomyelitis. One must question this proposition because although traumas may be very definite, the degree of traumas may be variable or at least the interpretation placed upon the severity of such traumas by the investigator is variable. Also, exhaustion and over-exertion are relative terms. In the Detroit studies virtually no correlation existed between the factors and the incidence of the disease. The incidence of severe poliomyelitis among recently tonsillectomized persons is quite significant. For example, there is evidence to indicate that recently tonsillectomized children develop bulbar poliomyelitis much more frequently than those children who have not recently been tonsillectomized.<sup>21</sup> There are, of course, persons who do not agree with this. But the evidence is overwhelmingly in favor of the proponents of the predisposing effect of tonsillectomies to the development of bulbar poliomyelitis.<sup>22</sup>

**CARRIERS:** As has been previously noted the incidence of infection with poliomyelitis virus far exceeds the incidence of clinical cases.<sup>22</sup> The speaker and his associates were able to show that in one outbreak involving an institution caring for children between infancy and ten years of age several individuals without any clinical symptoms were found to be carriers of the virus of poliomyelitis. A nurse and a physician, in addition to several of the children, who had intimate contact with cases were found to be positive. It seems quite possible that abortive and subclinical cases may carry the virus for varying periods of time. Brown and his associates, for example, were able to show that a person who developed clinical poliomyelitis had actually harbored the virus of poliomyelitis

in his stools nineteen days before the onset of the first clinical symptoms.

**PREVENTION:** The principles of prevention of poliomyelitis have varied many times even within the past decade. Vaccines have been developed which have been most unsuccessful. Prophylactic spraying of the nasopharynx with various and sundry chemicals has proved to be a total failure. As a matter of fact there are observers who believe that both the vaccine and the nasal spraying had actually the opposite effect of that which was expected.

The closing of schools, the avoidance of crowds and the isolation of the patient and contacts appear to have the effect of only a placebo. Certainly the wide and general distribution of the virus in nature and among humans particularly precludes the possibility of any effective means of avoiding possible infection. Based upon these facts the rules and regulations for the control of communicable diseases have brought about a change in attitude towards the isolation of poliomyelitis cases and contacts. Presently but few states isolate cases and contacts.

The only significant statement which a person can make as far as prophylaxis of poliomyelitis is concerned is that up to this time nothing has been found to be effective and the only encouraging statement which can be made is that clinical and research effort is ever expanding in the hope of finding some effective ways and means through which preventive measures may be exercised.

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## PHRENIC PARALYSIS IN THE TREATMENT OF PULMONARY TUBERCULOSIS\*

F. H. ALLEY, M.D., Oakville, and W. W. HUBBARD, M.D., Nashville

With the exception of a few places in the state, it is felt that phrenic paralysis is not being employed extensively or looked upon with much favor in the treatment of pulmonary tuberculosis. This paper is being given to stimulate more interest in the use of this particular procedure, not to replace other means of collapse therapy, but in conjunction with them where indicated, and in their place where unsuccessful or unavailable to the particular patient.

There is often much to be gained by the use of this procedure and seldom anything is lost by giving it a trial under the circumstances mentioned above. If the operation for a temporary interruption of the motor nerve pathways to the diaphragm is used, the operation is reversible in that normal function will again be present in six to eight months. Clear-cut indications should be present for a permanent paralysis, and these are only occasionally present.

### HISTORICAL

The use of procedures for the stopping of motion and elevation of the hemidiaphragm in the treatment of pulmonary tuberculosis dates back to about 1910. A good historical review of the development of the procedures by various men interested in pulmonary tuberculosis may be found in Alexander's book on "Collapse Therapy." Several procedures have been devised and used by surgeons either to temporarily or permanently interrupt the motor nerve pathways to the diaphragm. Some of these procedures giving complete paralysis have been difficult technically to carry out. Others have carried dangers to the patient which can be avoided.

### OPERATION

The procedure used in this group of cases to temporarily stop the motion of the diaphragm was to crush the main phrenic trunk, or trunks as are sometimes found, and to resect all accessory phrenic trunks from the fifth cervical root, including the nerve to the subclavius muscle. If perma-

nent paralysis of the diaphragm was desired, one to two centimeter sections of all main phrenic trunks as well as the accessory were taken.

The procedure is carried out about as follows: Using one per cent procaine for local anesthesia, a two to three centimeter skin incision is made in the neck about two centimeters above the clavicle, extending laterally around the neck, usually in a natural fold, from the lateral border of the sternocleidomastoid muscle. The subcutaneous fat and platysma muscle are divided in line with this incision. The superficial layer of the deep cervical fascia is then opened, exposing the fat pad over the anterior scalenus muscle. The fat pad is separated by inserting a closed hemostat, then opening it and inserting first a lateral retractor and then a medial one. The belly of the anterior scalenus muscle is then seen and in the groove between the anterior and medial scalenus muscles is seen the fifth root. This is the most important landmark. The belly of the anterior scalenus muscle is then explored by shifting the retractors medially and the main phrenic trunk is usually seen diagonally crossing this muscle from the lateral to the medial side as it goes behind the clavicle.

If this trunk is not seen in this position, a search is made along the medial border and then along the lateral border of the anterior scalenus muscle. Sometimes it has been lifted with the fat pad and is to be found in the medial retractor.

The nerve is disturbed as little as possible to prevent scarring which is troublesome at the time of the next operation if one is indicated. A small slit is made on each side of the trunk in the deep layer of the deep cervical fascia and the trunk is lightly stimulated with a hemostat with operator's other hand on the abdomen. Unless the nerve has previously been blocked with the anesthetic, a reflex is obtained. The nerve is injected with procaine and thoroughly crushed with the Haight phrenic nerve crusher. Search is then carried out for additional trunks, and if found they are

\*Read before the Tennessee State Medical Association, Knoxville, April 9, 10, 11, 1946.

treated in the same manner if they are large, and resected if small.

The retractors are then shifted laterally and the fifth root is exposed. This root is then carefully explored well below the clavicle and all nerve trunks leaving it medially and anteriorly are resected. Usually two nerve trunks are found and sometimes more. It is the rare occasion that no accessory trunks are located. Paralysis will not be complete or will last a much shorter and unpredictable time unless these accessory trunks are found and dealt with.

The platysma muscle is then closed with three interrupted cotton sutures, the knot being placed on the under side. The skin is also closed with interrupted cotton sutures. This type of closure leaves much less scar than the use of skin clips.

#### ANATOMICAL RESULTS

The patient is fluoroscoped within the next few days to carefully note motion and elevation of the diaphragm. Usually a little paradoxical motion is noted on normal respiration and may be greatly exaggerated by having the patient sniff in. It is advisable to have observed the motion of the diaphragm before the operation was done. This is especially true in repeat paralysis.

Should paralysis not be present or incomplete another search for main phrenic trunks or accessories should be made in the immediate future.

#### REPEAT OPERATIONS

When function begins to return to the diaphragm and it is desirable to repeat the operation, the scar from the previous operation is excised in the skin and the same procedure carried out in locating the phrenic trunk. Notes of the previous operation should be read as an aid in locating a nerve in an unusual position. If the results from the first procedure were satisfactory and motion did not return under five to six months, it is only necessary to locate and re-crush the main phrenic trunk. This is usually easier to do if one goes above the previous scar tissue. If function returned before five months or was not thought to be complete, along with recrushing the previously crushed trunk, additional nerves should be sought for.

This procedure may be indicated for the third or fourth time.

It is felt by us that three phrenic crushes and eighteen months of bed rest is the treatment of choice over pneumothorax in minimal lesions and many moderately advanced lesions.

#### INDICATIONS

The indications for this procedure in the treatment of pulmonary tuberculosis are many and rather difficult to outline. Broadly, phrenic paralysis should be used in all cases of active disease where it is felt that more radical forms of collapse therapy may not be necessary. At the other end of the scale, it is indicated where disease is so advanced that more radical measures cannot be employed. There are no cases in between these two extremes, where a phrenic paralysis cannot be used to advantage when other measures are not successful or cannot be carried out when indicated.

Phrenic paralysis without bed rest or without conjunction with other collapse measures is of little value in definitely active disease and is no substitute for bed rest. Used in conjunction with bed rest it is felt this period can be greatly shortened. We never look for anything startling in using this procedure, but many times the results are very encouraging.

Some of the common indications are as follows:

1. Minimal and moderately advanced lesions where phrenic paralysis along with bed rest is the only procedure expected to be used in arresting the disease.
2. Lesions in which pneumothorax is the treatment of choice, but attempts to establish it are unsuccessful or unsuccessful because of indivisible adhesions.
3. In lesions where pneumothorax is clearly indicated, but living conditions of patient make refills impossible. Also for opposite side, where lesions are bilateral and one side is being treated by pneumothorax, particularly in field programs.
4. In expanding a successful pneumothorax.
5. In preparation for thoracoplasty where lesion is too acute for immediate operation.



6. Where lesions are so advanced that other forms of collapse therapy cannot be undertaken, a phrenic paralysis will often improve the patient to a point where other measures can be used. The psychological value in this type of case is of importance.

7. In obliterating a pleural space along with thoracoplasty.

8. In pulmonary resection to decrease pleural space and to relieve pain and discomfort.

#### CASE SLIDES



Fig. 1A

Fig. 1A—Minimal tuberculosis, right apex. Phrenic paralysis treatment of choice.



Fig. 1B

Fig. 1B—Results obtained after six months' bed rest with phrenic paralysis.

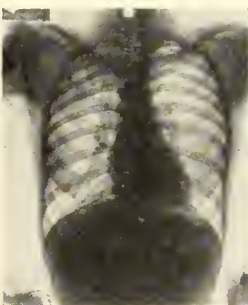


Fig. 2A

Fig. 2A—Moderately advanced tuberculosis, right apex. Pneumothorax unsuccessful.



Fig. 2B

Fig. 2B—Twelve months' bed rest with phrenic paralysis and re-crush at eight months.

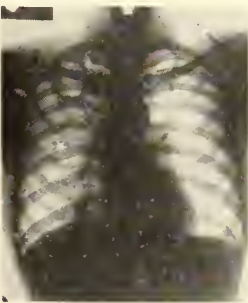


Fig. 3A

Fig. 3A—Far advanced tuberculosis, right, with large cavity.



Fig. 3B

Fig. 3B—Prepared for thoracoplasty by phrenic paralysis and six months' bed rest.



Fig. 3C

Fig. 3C—Thoracoplasty completed.

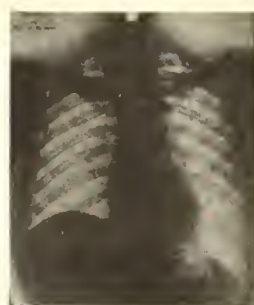


Fig. 4A

Fig. 4A—Far advanced tuberculosis, right. Phrenic and bed rest planned preparatory to thoracoplasty.

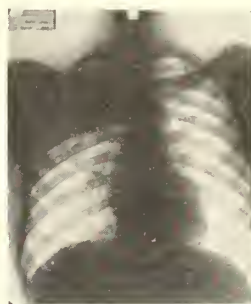


Fig. 4B

Fig. 4B—After three temporary phrenic paralyses and eighteen months' bed rest, thoracoplasty was not required.

In Chart I the anatomical results of 765 phrenic operations on 627 patients are shown. Paralysis of the hemidiaphragm (with associated elevation in most instances) is considered satisfactory results. In cases where unsatisfactory results are obtained, six were in initial operations. In three of these paralysis was obtained in subsequent operations. The other failures to obtain a satisfactory paralysis were in re-crush operations.

Resection of the phrenic nerve to produce a permanent paralysis was done in only two

TABLE I

PHRENIC PARALYSIS IN TREATMENT OF PULMONARY TUBERCULOSIS, OAKVILLE SANATORIUM AND MIDDLE TENNESSEE TUBERCULOSIS HOSPITAL, 1943-1945, INCLUSIVE

No. Patients	No. Operations	Anatomical Results	
		Satisfactory	Unsatisfactory
627	765	738	27 or 3.6%
Permanent			2
Temporary			
Initial			625
Second			122
Third			16
Complications			
Postoperative hemorrhage			2
Horner's syndrome			2
Brachial plexus trauma			1
Wrong side operation			2
Gastrointestinal disturbance			0
Death (lowered respiratory reserve)			1



TABLE II  
PHRENIC PARALYSIS IN TREATMENT OF PULMONARY TUBERCULOSIS, OAKVILLE SANATORIUM AND  
MIDDLE TENNESSEE TUBERCULOSIS HOSPITAL, 1943-1945, INCLUSIVE

Indications	No. Pts.	Classification			Therapeutic Results
		Min.	MA.	FA.	
Treatment of choice	228	99	119	10	204 Apparently arrested 24 Further treatment
Pneumothorax indicated, but unsuccessful	173	MA or FA			103 Apparently arrested 30 Thoracoplasty 40 Unsatisfactory
Pneumothorax indicated	54	MA or FA			42 Apparently arrested 12 Unimproved
(Refills not available, 28 bilateral disease, pneumothorax one side 26)					
Expanding pneumothorax	20	MA or FA			20 Apparently arrested
Thoracoplasty indicated, lesion too acute	58	MA or FA			32 Thoracoplasty 5 Improved, no operation 21 Awaiting operation
Advanced Lesion	84	MA or FA			20 Improved 64 Unimproved
Pleurisy with effusion	6				6 Apparently arrested
Miscellaneous	4				

(Adjunct to thoracoplasty 3, adjunct to resection 1)

cases, both having a pneumothorax on the same side, which failed to close cavities in the lower lobe. Satisfactory results were obtained with the combination of phrenic paralysis and pneumothorax.

Complications have been few. Postoperative hemorrhage, where it occurred, was readily controlled by resuturing the wound. Horner's syndrome occurred in two cases (both re-crushes), and each cleared up within a few months. In one instance severe pain over the area of distribution of the radial nerve was present for about a month and was probably due to bruising the brachial plexus in searching for a phrenic nerve in an abnormal position. Two cases were operated on the wrong side, a situation that may easily occur when a partially narcotized patient is completely draped. Gastrointestinal symptoms have not been noted in any of these cases, and the complication is mentioned only to refute statements sometimes made that "indigestion" occurs following elevation of the diaphragm (particularly on the left side). One patient died of diminished respiratory function.

In Chart II the therapeutic results obtained to date are shown, according to the various indications for which the operation was done.

Where the operation was the treatment of choice, other forms of collapse therapy were eventually used in twenty-four. The remainder obtained satisfactory clinical results from one or more phrenic paralyses.

In the group where pneumothorax was indicated, but was unsuccessful, those in

whom a pneumothorax could not be established, and those whose collapse was abandoned because of extensive adhesions are included. In this group no treatment other than a phrenic paralysis was necessary in 103. Thirty have already had a thoracoplasty and forty cases are not considered materially benefited by the phrenic. Four of these have died. It is felt that a phrenic should be tried in many cases of unsatisfactory pneumothorax before thoracoplasty is done.

There have been cases where pneumothorax was the treatment of choice, but living conditions of the patient were such that refills could not be obtained. A temporary phrenic paralysis was done in twenty-eight such instances during this three-year period. It was also used in twenty-six cases of bilateral diseases where a pneumothorax was done on one side. The risk involved in bilateral pneumothorax was considered too great to justify the procedure.

Temporary phrenic paralysis has been done on twenty cases where a satisfactory pneumothorax is being expanded. The reduction of pleural space aids as a "cushion" in expansion of the lung.

The procedure has been most useful in controlling lesions where thoracoplasty is the treatment of choice, but where the lesion is in too acute a stage for immediate operation. In fifty-eight such cases in this series, thirty-two have already had a successful thoracoplasty, five improved sufficiently to discard thoracoplasty as the in-

licated treatment, and twenty-one are awaiting operation.

In this series phrenic paralysis was done on eighty-four cases with advanced lesions where other forms of collapse therapy were considered to be too drastic. Twenty of these improved sufficiently to be treated by other means. The majority, however, were not improved and twenty-four are known to be dead.

Phrenic paralysis has been done in six cases of pleural effusion where parenchymal lesions could not be demonstrated.

The procedure is useful as an adjunct to some cases of thoracoplasty and pulmonary resection to reduce and to control pain.

#### SUMMARY AND CONCLUSION

1. The operations for temporary and permanent paralysis of the diaphragm here described give the desired anatomical results with practically no danger to the patient.

2. The indications outlined are broad. The procedure, used alone and combined with other collapse measures, is a great aid in treating pulmonary tuberculosis, cutting down the length of bed rest necessary, but is no substitute for bed rest.

3. A study of results obtained from 765 operations on 627 patients indicates the therapeutic value of the procedure and strengthens our belief that phrenic paralysis should receive more consideration in the treatment of pulmonary tuberculosis.

#### REFERENCES

J. Alexander: "The Collapse Therapy of Pulmonary Tuberculosis." Charles C. Thomas, 1937.

#### DISCUSSION

DR. W. HUSTON TANKSLEY (Nashville): Mr. Chairman and Fellow Members of the Tennessee State Medical Association: I have thoroughly enjoyed this excellent and timely paper presented by Doctors Alley and Hubbard. I quite agree with them that phrenic paralysis should be more widely used in treatment of pulmonary tuberculosis.

The operation is one of the more simple forms of collapse therapy and is attended by few if any complications. While not a cure-all, it frequently serves as a substitute for or as an adjunct to pneumothorax or thoracoplasty.

The technique of the operation, as described by Doctor Alley, is effective in producing paralysis of the diaphragm in a high percentage of cases. The

dangers of operation are negligible in the hands of an experienced operator. The landmarks described should be carefully looked for and positive identification of the phrenic nerve must be made before crushing is attempted in order to avoid accidental crushing of the vagus, injury to the brachial plexus, or damage to the recurrent nerve.

The results of the paralysis are threefold: (1) producing relaxation of the lung; (2) diminishing the excursion of the lung; and (3) removing tension on the lung when it is adherent to the diaphragm.

In regard to repeat crushes some surgeons prefer to tie a loose silk suture around the nerve, anchoring it to the platysma muscle to assist in relocation.

It might be advisable to elaborate to some extent on the indications for phrenic paralysis. As Doctor Alley has pointed out, best results are obtained in minimal and moderately advanced cases. Some common indications not mentioned in the paper are as follows: uncontrollable pulmonary hemorrhage; bow string lung; basal cavities; control of spread to the base in preparation for thoracoplasty; as a substitute for pneumothorax or thoracoplasty where the patient refuses these procedures; in conjunction with pneumoperitoneum in cases not suitable for pneumothorax or thoracoplasty; in combination with monaldi for treatment of tension cavities.

In conclusion I should like to emphasize that phrenic paralysis is of little value without bed rest. The cases and data shown have demonstrated that this type of operation has a definite place in the treatment of pulmonary tuberculosis. It is my firm opinion that this procedure is capable of salvaging some of our old chronic cases if combined with bed rest or pneumoperitoneum or both.

Thank you.

DR. HOLLIS E. JOHNSON (Nashville): Mr. President, Ladies, and Gentlemen: I have greatly enjoyed this presentation by Doctor Alley and Doctor Hubbard on a most important subject, and I must say in the main that I agree thoroughly with their indications, and I want to congratulate them warmly on their excellent results.

In the treatment of pulmonary tuberculosis there are two aims. The first and primary aim is to cure, arrest or apparently cure the tuberculosis process. The second is to accomplish this arrest without impairing, or impairing as little as possible, the function of that lung. A temporary phrenic paralysis when it is effective accomplishes these two objectives to a greater degree than any other form of collapse unless it is a good or satisfactory pneumothorax.

Unfortunately, however, at least in our experience, phrenic paralysis has not accomplished these two objectives in as great a percentage of cases as has pneumothorax. This means, in our opinion, that a satisfactory pneumothorax is still the collapse of choice in the majority of cases. An unsatisfactory pneumothorax should never be continued and is, of course, useless.

There is no doubt that basal cavities, which, as a rule, do not respond well to any form of collapse therapy, as Doctor Tanksley told us, are sometimes satisfactorily or successfully treated by a phrenic paralysis. The minimal tuberculosis that can be treated by bed rest is certainly helped toward the goal of recovery by a temporary phrenic paralysis. We also have used it as an aid in closing cavities in a lung that is adherent in the apex and also adherent in the base, and where the adhesions cannot be severed by pneumonolysis so that paralysis of the diaphragm releases the tension on the cavity and allows the pneumothorax to close it. This has been successful in several instances in our experience.

I have felt for some time that we might be underestimating the efficacy of phrenic paralysis in some of our cases. The results obtained by Doctors Alley and Hubbard have shown me that we have probably not been employing this form of treatment as often as we should, and this probably is due to the fact that unsatisfactory results have been reported by others heretofore.

I think there is one word of caution, however, and that is that we should not employ phrenic paralysis whenever some other form of collapse would do the job better. I further believe that phrenic paralysis can be used unnecessarily in some cases of minimal tuberculosis that respond well without aid.

I want to thank Doctors Alley and Hubbard for a most interesting and instructive presentation.

DR. W. J. NOON (Knoxville): I am sorry I did not hear the beginning of Doctor Alley's paper. I would like to know the length of time that a diaphragm is paralyzed in each of his operations, and whether or not the repeated crushings had any effect on the ultimate or final function of the diaphragm.

When he did his phrenic paralysis on a re-expanding pneumothorax, did the rise in the diaphragm prevent the cardiac displacement that you find with a re-expanding pneumothorax?

I would like to know why they did it on pleurisy, with effusion, and whether and in how many cases he found accessory nerves.

DR. ROLLIN A. DANIEL, JR. (Nashville): In the first place, I would like to say it is a perfectly beautiful series of cases. I am sure there are none better, and since Doctor Alley has had a much larger experience than have we in this type of procedure, I think we will be encouraged to use it more frequently.

We have come to feel that when thoracoplasty is to be employed, or probably will be employed within a period of a few months, a phrenic paralysis is

pretty definitely contraindicated, the reason being that we believe the diaphragm is an extremely important respiratory muscle as regards the act of coughing, and since the patient needs the diaphragm and needs to be able to cough and expectorate sputum immediately after operation, we have felt that if thoracoplasty is contemplated in the near future phrenic paralysis should not be carried out. I would like to know Doctor Alley's feeling about that.

DR. F. H. ALLEY (closing): I wish to thank Doctors Johnson and Daniels and the others for their kind discussion of this paper. I will try to answer some of Doctor Noon's questions.

We have found that most of the time function returns to the diaphragm within six to eight months. Certainly if function returns sooner than five months, there is another phrenic trunk present or an accessory left, which is causing the early function. In only two of this entire series have we felt that permanent paralysis has resulted when we intended it to be a temporary paralysis.

In regard to the presence of accessories, it is a very, very unusual case. I cannot give you the exact figures in this particular series in which a nerve is not resected. That nerve, when there is only one present, is likely the nerve to the subclavius muscle, but along with it are usually phrenic fibers which, if they are not interrupted, will cause early movement of the diaphragm or continued movement.

In the pleural effusion cases (there were six of these) we feel that pneumothorax is usually indicated. If it is early, we usually aspirate the fluid and replace by air. If the effusion has been present for a length of time before the case falls into our hands and pneumothorax cannot be used, we feel that a phrenic paralysis definitely helps in drying up the fluid present.

To Doctor Daniels' question about the preceding of the thoracoplasty by a phrenic paralysis, we feel as he does that we would rather have the diaphragm functioning normally if a thoracoplasty is to be done, but many of these lesions are too acute for the thoracoplasty at that particular time. We feel that they can be brought to thoracoplasty much quicker by using the paralysis. Of course, it will delay the operation from six to eight months, but in many of those cases if the phrenic is not employed, they will not eventually reach thoracoplasty.

We have several slides, if you would like to see them and if Doctor Chaney will give us time, which show indications and results. If not, we will conclude.



## EXTERNAL RUPTURE OF AORTIC ANEURYSM—CASE REPORT

SANFORD M. VAUGHAN, M.D., Henning

The following case of an external rupture of an aortic aneurysm is reported:

A colored female, aged thirty-eight, was first seen in March, 1946, at which time she had an eroding aneurysm visible just below the sternoclavicular junction, right, about the size of an almond. The patient said she had first noticed the swelling after receiving a venous injection (for "bad blood") about six months before. I recommended a course of bismuth injections *only*. Instead, she went to another physician and received ten "arm and hip" injections. Then she came back to me in July because the aneurysm had become larger—about three times the former size. I gave her twenty injections of bismuth, advised her to do no work, and warned her family that her life expectancy would be about six months.

I saw the patient about once a month thereafter, and the aneurysm steadily increased in size. Early in January, 1947, a small hemorrhagic area appeared a little off center of the aneurysm, which by now was about three inches in diameter at the

base and protruded outwards to the level of her chin.

On January 14, 1947, I was called to the patient's home due to a breakdown of the hemorrhagic area. From an opening the size of the tip of my little finger I found a slow ooze of thick sanguinous matter coming into the aneurysm. Also I noticed two other hemorrhagic spots close to the opening. I applied a cotton compress over the opening, holding it in place with a fairly firm adhesive strapping, and put her on sedatives. This held for four days, when further oozing compelled me to change the dressing. At this time the opening was as large as my thumb. This dressing held for two days more, then a large hemorrhage developed at eleven o'clock at night, from which the patient lost consciousness, but lived until eight o'clock the next morning, when a final hemorrhage occurred. Examination of the cavity after death showed it to be the size of a silver dollar, with complete destruction of the sternal attachment of the first rib and slight erosion of the clavicular junction and the lateral edge of the sternum.

## LEAD ENCEPHALOPATHY—CASE REPORT\*

CLIFTON W. WOOLLEY, M.D., Memphis

In that the signs and symptoms on admission were rather bizarre and, perhaps, resembled a brain tumor more than lead encephalopathy, this case is reported.

*Case Report:* R. M. P., a four-year-old colored female, was admitted to the John Gaston Hospital on March 6, 1947, with a chief complaint of abdominal pain of two weeks' duration. In January, two months earlier, the child had abdominal pain and was treated by a private physician for intestinal parasites and became asymptomatic. Two weeks prior to admission the abdominal pain recurred and persisted to date. The pain was severe and sharp in character and periumbilical in location. There was also pain in the right forearm. For one week prior to admission she vomited frequently, and on one occasion it is said that she vomited a long white worm. No worms have been seen in the stools.

*Past History:* The patient was born at home at full term with a midwife in attendance. There were no abnormalities noted. Development was considered as normal. There had been no previous illnesses. No immunizations had been given. Orange juice and cod liver oil had been given irregularly.

The family history was noncontributory.

The physical examination revealed a fairly well-developed but poorly nourished four-year-old colored female in moderately severe pain. The temperature was 98.6 degrees Fahrenheit. The weight was twenty-five pounds. Examination of the eyes revealed a slight strabismus, the pupils did not react to light, and there was slight papilledema. The left ear drum was slightly inflamed. The abdomen was soft, flat, and not tender. No masses were palpated. The tissue turgor was poor, revealing loss of weight. The extremities were flaccid, and the child was weak and ataxic. The deep reflexes were absent. There was nuchal rigidity. The Brudzinski and Kernig signs were doubtfully positive. The re-

mainder of the examination was negative. The first impression was either a brain tumor or a meningitis.

*Laboratory:* The admission blood count was: red blood cells, 3,760,000; hemoglobin, eleven grams white blood cells, 14,200, with seventy-six per cent polymorphonuclear leukocytes, twenty per cent lymphocytes, two per cent eosinophiles, and two per cent large monocytes. Although there was slight papilledema, a lumbar puncture was done under increased pressure. The fluid was grossly clear. Two hundred thirty-seven cells were counted, of which one hundred forty-two were white cells. The smear was negative for organisms. The protein was eighty-eight milligrams per one hundred cubic centimeters; the chlorides, seven hundred forty milligrams; and the sugar, seventy-five milligrams. The culture was negative after five days. The urine was negative. Examination of the stool revealed no ova or parasites. The P. P. D. tests, first and second strengths, were negative. The histoplasmin test was negative. The blood serology was negative.

*Course:* The child was placed on a regular diet, bed rest, vitamin D, and a roentgenogram of the chest was made and reported as negative. Two days after admission the child fell out of bed and sustained a large hematoma on the head. A roentgenogram of the skull was then made and reported as negative. Two days following the fall from the bed the patient had a generalized convulsion which the interne recorded as resembling a grand mal seizure of epilepsy. Sodium amytal was ordered. Intermittent convulsive seizures have continued, and the patient has been more or less drowsy and semistuporous much of the time. She has been fed by tube, elysis, and many intravenous injections have been given, including blood, plasma, glucose, and saline. After the first convulsion, the long bones were X-rayed, and the roentgenograms revealed characteristic lead lines at the growing ends of the long bones. With this finding the history was revealed, and it was found that battery casings had been burned in the

\*Read before the Tennessee State Pediatric Society, Memphis, April 8, 1947.

home as fuel for several months. The diagnosis was at this time, obviously, lead encephalopathy. The following day a ventriculogram was done, and it was reported that the ventricles were very small but symmetrical. This procedure was immediately followed by a right subtemporal decompression. The brain was under extremely high pressure. At this time penicillin was started, as well as calcium gluconate. The large doses of vitamin D already being given were continued, as was the sedation with sodium amytal.

The temperature which was normal before the surgical procedures now ranged between ninety-nine degrees and one hundred three degrees Fahrenheit and continued for a period of two weeks, after which time it returned to normal and has thus remained. At present it is believed that the child is losing her eyesight, and she has lost more weight. She twitches and exhibits irregular purposeless movements on slight stimulation. She is restless and irritable. Now, at the end of the fourth week in the hospital, the prognosis is good for life but poor for complete recovery.

*Conclusion:* Lead poisoning with and without encephalitis is still seen, not infrequently, in this locality. Since 1940 there have been twelve cases of pediatric age diagnosed and treated in Memphis. All but one of these were patients in the John Gaston Hospital. In only four cases was the source of lead undetermined. One case was due to the ingestion of lead acetate. The others were due to inhalation of fumes from the burning of battery casings in the home as fuel. Death resulted in four of these cases. Two of the others, including the one discussed in this report, have been left with much permanent cerebral damage. The use of the roentgenogram in making films of the long bones of all cases of convulsions of undetermined cause in children aids in establishing the diagnosis. The treatment, though unsatisfactory, is directed toward the control of the convulsions and the removal of the lead from the circulation by its deposition in the bones. That which aids in the deposition of calcium into the bones also aids in driving lead from the blood stream into the bones in the form of lead phosphate. Needless to say, the best treatment is prevention.



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W. M. HARDY, M.D., Editor and Secretary

JUNE, 1947

## EDITORIAL

### CONGRESS STILL TALKS

During this month Congress has talked some more. Some tax measures have been passed by each House, and conference committees are ready to do some more talking. Bills to regulate labor have passed the two branches of the National Legislature, and again conference committees are called into action.

Some of the proposed "Health" Bills are being discussed in committees. Nothing new has been said in these hearings. It is a safe bet that some of the witnesses are again reading the same statements which were read at other "Hearings" in former years. These "Health" Bills vary from session to session much like women's styles change—one year they wear longer dresses and smaller hats, and the next year the dresses are tighter and hats larger.

During the course of the last month the President again sent a special message to Congress urging the passage of "Health" legislation. Within a week another Murray-Wagner-Dingell & Company Bill had been introduced to save the dying millions in the dear Old U. S. A.

It was the same old play that has been pulled every game (I believe it is called a session of Congress) for years. Some day the Dear People may wake up to such political tricks.

Senator Taft is quoted as saying that this session will not have time to consider

health measures. He expects no action during this session.

On the other hand, this session of Congress is drawing to a close. Almost anything has been known to happen suddenly in the closing days of these talkfests.

Whatever the outcome may be, the proponents of political medicine are keeping up their war of nerves. They never sleep! They care not what party is in control! "They just keep inching along!"

**WATCH THEM!**

### PROPAGANDA!

*Seventy-five millions annually.*

The public is told that Section 201, Title 18, of the U. S. Code, imposes a fine of \$500 or one year imprisonment upon federal officials convicted of using general appropriation funds for propaganda activities "designated to influence in any way a member of Congress to favor or oppose" any given piece of legislation.

A subcommittee on Publicity and Propaganda in the Executive Department opened hearings May 28 on the Federal Government's \$75,000,000 annual expenditures for publicity and propaganda.

Indiana Congressman Forrest A. Harkness is chairman of this subcommittee and Frank T. Bow, of Canton, Ohio, is the General Counsel conducting the examination of witnesses. Preliminary investigations indicate that various federal agencies have sponsored state and regional meetings agitating for the Wagner-Murray-Dingle Bill for political medicine and compulsory health "insurance."

"Our preliminary inquiries disclose that the Federal Agencies are spending about \$75,000,000 a year in public relations and propaganda programs," Chairman Harkness said. "We are certain that a substantial proportion of this huge publicity fund goes into programs designed to influence legislation, often to develop regional pressures against economy measures decreed by Congress in the appropriation bills."

"We know that the U. S. Health Service, the Federal Security Administration, and the Department of Agriculture have been very active during the last three years in

advocating compulsory health insurance. Officials of these agencies bring different groups together from time to time to map out regional health programs—all of them on the basis of socialized medicine and compulsory federal insurance sustained by pay-roller deductions.

"The fact is, of course, that Congress never has authorized the expenditure of public funds for such activities. Our preliminary investigations in the General Accounting Office indicate that in many cases such propaganda activities are shielded or disguised in the auditing vouchers by various subterfuges of accounting procedure.

"We have the complete record of one regional health conference held at Jamestown, North Dakota, last September which was managed and directed by officials from the Farm Security Administration, the Office of Education, the U. S. Public Health Service, and other federal pay-rollers. The avowed purpose of this conference was to train participants in ways and means of agitation for socialized medicine; to bring pressure on Congress for a national health program based on compulsory health insurance."

Following the hearing of May 28 on the activities of the Public Health Service, the Government Propaganda Committee plans to inquire into similar activities in the Federal Security Administration, whose Division of Research and Statistics distributes voluminous material supporting socialized medicine.

"Government propaganda is a device of dictatorship," said Chairman Harkness. "It is not for free America.

"Free people do not need government-made opinions.

"The \$75,000,000 a year which the Federal Agencies are squandering in promotion, publicity, and propaganda represents not only a flagrant extravagance of public funds, but an unwholesome and un-American development in our scheme of constitutional government.

"It will be our plan to root out such illegal activities in the federal establishment wherever we may find them."

The subcommittee is composed of the following members: Forest A. Harkness, Indiana, Chairman; James W. Wadsworth, New York; Henry J. Latham, New York; Carter Manasco, Alabama; J. Frank Wilson, Texas.

All of this may be hard to believe, but no Congressman would give a press release of this kind without having the facts to back up the charges he makes.

All right-thinking citizens join in hoping that a condition of this kind will be cleared up. Someone might add that a year's vacation for some of the guilty is too short a penalty for so great a crime. However, any kind of a conviction on such charges will be a marked advance from our present position.

## DEATHS

ALBERT WASHINGTON LEWIS, M.D.

Albert Washington Lewis, M.D., Copperhill; University of Nashville Medical Department, 1901; aged seventy-two; died May 16, 1947, following an illness of several years.

GEORGE WINCHESTER PENN, M.D.

George Winchester Penn, M.D., Humboldt; Vanderbilt University School of Medicine, Nashville, 1884; aged eighty-three; died suddenly May 20, 1947.

EDWARD COLEMAN ELLETT, M.D.

Edward Coleman Ellett, M.D., Memphis; University of Pennsylvania School of Medicine, Philadelphia, 1891; aged seventy-seven; died June 8, 1947.

DAMON SMITH LATIMER, M.D.

Damon Smith Latimer, M.D., Union City; University of Tennessee College of Medicine, Memphis, 1917; aged fifty-two; died April 26, 1947.

ANDREW M. GAMBLE, M.D.

Andrew M. Gamble, M.D., Maryville; University of Tennessee College of Medicine, Nashville, 1899; aged eighty; died May 30, 1947.

E. THOMAS GOLDSBY, M.D.

E. Thomas Goldsby, M.D., Henry; University of Tennessee College of Medicine, Nashville, 1893; aged seventy-two; died April 26, 1947.

## RESOLUTIONS

*Whereas*, Dr. Ezra Maxwell recently passed away, the members of the Consolidated Medical Assembly of West Tennessee desire to pay their last respects to their friend and fellow physician; and

*Whereas*, we sympathize with his family in their sorrow and as consolation offer them the gratifying thought that his was a life dedicated to the alleviation of pain and the lengthening of life. The passing of a good physician deprives the community of a most loyal servant, and in the present day of scarcity of physicians it is considered almost an irreparable loss.

*Therefore be it resolved*, That we publish these resolutions in our STATE MEDICAL JOURNAL and send a copy to the family.

LELAND M. JOHNSTON, M.D.,

JERE L. CROOK, M.D.,

BAKER HUBBARD, M.D.,

*Committee on Resolutions.*

*Whereas*, in the providence of God our friend and brother physician, Dr. Otis Fesmire, of Atwood, Tennessee, has passed away;

*Be it resolved*, by the members of the Consolidated Medical Assembly of West Tennessee, That we deplore the death of this good physician. We sympathize with the family in their bereavement and offer to them as a word of condolence the satisfying thought that Doctor Fesmire led an unselfish life of devotion to his profession and service to his community, and this should be some compensation for his death.

*Be it further resolved*, That we publish these resolutions in our STATE MEDICAL JOURNAL and send a copy to the family.

LELAND M. JOHNSTON, M.D.,

JERE L. CROOK, M.D.,

BAKER HUBBARD, M.D.,

*Committee on Resolutions.*

## AND WE QUOTE

### WELL DESERVED TRIBUTES

"... Very few physicians since the days of Nathan Smith David have contributed more to organized medicine than has Olin West. His recent resignation (President-Elect, American Medical Association) brings to a close a quarter of a century of service to his fellow physicians and to the progress of medicine in the United States.—*Connecticut State Medical Journal*, May, 1947.

"Thousands of physicians throughout the country were saddened by the news that Dr. Olin West, President-Elect of the American Medical Association, has resigned. . . . Thus comes to a close the active career of a physician more widely known and loved by his colleagues than any other official of the American Medical Association. . . . It is your observer's hope, and he is sure that he voices that of many others, that somehow Dr. West's health will improve enough to permit him to participate to at least a limited degree in the activities of the organization to which he has devoted so many years of his life."—*Medical Annals of the District of Columbia*, May, 1947.

"He [Dr. Olin West] was an ardent exponent of high ethical standards for the medical profession in the United States, and through his efforts was able to maintain those standards throughout his career."—*The Pennsylvania Medical Journal*, May, 1947.

"Thus passes out of the official picture one of the truly great men of American medicine. . . . To the kindly personality who would rather be addressed 'Olin' than 'Dr. West,' we regretfully say, 'Ave et Vale.'"—*Delaware State Medical Journal*, April, 1947.

"Doctor West did a big job for organized medicine and did it well. . . . His friends are legion, and they all unite in wishing that in the years to come he may be sufficiently restored to health as to be able to enjoy the fruits of his long years of labor in a most worthy field."—*Journal of the*



*Indiana State Medical Association, May, 1947.*

"... This is a real calamity [his resignation], even though we know his work will go on. Competent successors are inevitably arranged for, for any of us, but to one so well loved and so much depended upon as Dr. West has been throughout the years, it is not easy to agree that he step aside. No matter what betide, we are hopeful that his health is better than he thinks it is, and that he will be with us yet a long while."—*Texas State Journal of Medicine, May, 1947.*

"There were few members of the American Medical Association who did not regret deeply the news that Dr. Olin West, who was elected as President-Elect of the American Medical Association at its last meeting, had been forced to resign because of ill-health. Olin West was a Tennessean who rose to the leadership of the largest medical group in the world. This rise was not meteoric. It was a progressive ascendancy up the ladder of achievement, and was made rung by rung by hard work, conscientious effort, diligence, and by superior ability. Some men—'flash-in-the-pans' they are called—are acclaimed in the hysteria of excitement as the result of accident, or chance, or by political expediency. Others achieve their high estates because of those innate qualities that designate them for places of leadership. To this last group belongs Olin West, who has endeared himself to those of his fellow physicians who know him best. We wish for him many days and years of health. He has our respect and high regard."—*Memphis Medical Journal, May, 1947.*

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#### KENTUCKY EXAMPLE

Tennesseans can watch with profit the effort individual Kentuckians are making to overcome the grave lack of medical care in the rural areas of the state.

Our state may be somewhat better off in terms of rural medical service than our sister state to the north, but the difference is not great. The statistics offered by the Kentucky Farm Bureau Federation and

other groups campaigning for financial aid to put more doctors at work in rural areas are arresting, even shocking.

For 2,000,476 rural inhabitants of Kentucky in 1946 there were only 939 doctors. Of these physicians, 458 were over sixty years old, and some of them closer to eighty. No young ones were taking the places of those retiring. No new doctors were entering the field.

It is obvious that in a matter of time rural Kentucky would be without any medical service.

A campaign has raised \$100,000 to provide scholarships for medical students who will pledge to serve a stipulated time in rural areas.

This will help that state. It would help in our own state. But the real remedy is not in medical scholarships. There are too few doctors. If that statement is not true, then urban areas have too many doctors—an assumption that nobody will defend.

Rural Kentucky—and Tennessee—will have adequate medical service when the number of physicians turned out by the medical schools is greatly increased and when clinic, laboratory, nursing, and hospital facilities in rural areas are created. Modern aids and small hospitals around which rural physicians may pool their skills must be provided. Congress has enacted legislation to promote such a program. States and communities have shown no strong disposition to take advantage of this beginning program as yet. More leadership to this end is needed from farm organizations, leaders in rural county seats, and medical organizations.

Even if the Roosevelt dream of a chain of small hospitals throughout rural America were realized, this would not in itself guarantee adequate medicine to farm communities. Doctors gather in urban areas not only because of superior medical facilities, but also because they make more money there. So long as the supply remains drastically limited, those who can afford to pay more will get the service. There will have to be more doctors as well as more hospitals. Expanded medical training programs

and admission policies that will not bar any man—or woman—who is capable of making a good physician are other musts.

Rural Kentucky is to be commended for taking the initiative to overcome its plight. Rural Tennessee might well follow this lead. But these rural areas cannot by themselves overcome their problem any more than a man can raise himself by his bootstraps. A lot of shoulders are needed at the wheel.—*The Nashville Tennessean, May 14, 1947.*

### TOO MUCH OF A GOOD THING

A speaker at a conference on medical education said ninety per cent of medical students today seek to join clinics in order to become specialists. Such a figure suggests medicine may be getting too much of a good thing and that the present trend, while a boon to the science of healing, may turn out to be a little hard on the patient.

Specialization is wonderful. It has brought mankind far along the road from the medical Dark Ages. It has conquered many killing diseases, and it will conquer many more. It has saved countless lives.

It is small wonder, then, that most doctors want to specialize. A professional lifetime is not too long to spend on many single branches of medicine or surgery. This concentration leads to highly developed skills and knowledge.

As skills increase, so do the opportunities for a lucrative practice. Specialists tend to gravitate to the cities, where patients are likely to be more prosperous as well as more numerous. All this is fine if it does not go too far. But the present trend threatens serious neglect of one important field in medicine.

That is the field of general practice. Some effects of overspecialization are already apparent. Many rural communities are experiencing a shortage, both in quantity and quality, of medical assistance. The young men specialize and go to the city. The rural community's health becomes the responsibility of a few old-timers.

In the cities, too, it is often difficult to find a general practitioner. There are spe-

cialists galore. But, outside of crowded clinics, it is sometimes a real feat to get a general examination or treatment for a minor ailment.

The problem extends beyond the tangible realm of statistics. For there is a real need, in this troubled world of apprehensive people, for a modern counterpart of the old-fashioned family doctor.

The general practitioner of grandfather's day may have been ill equipped in science. His black bag may have held only primitive weapons against disease. But if he was a good doctor, he had something that is lacking in many of his learned successors today.

Too many specialists today offset the help they give by an abrupt, impersonal manner. They become too busy or too absorbed to remember that the patient is a complex human being as well as an interesting or routine case. They are inclined to forget that an illness is important to its sufferer, who benefits from a little warmth on the doctor's part.

We don't have the prescription that will save the family doctor from threatened extinction. Group practice, maybe. But we are sure there is a real need today for the kind of doctor who used to be able to bring an anxious household a feeling of reassurance the moment he came in the door.—*Reprinted from the Star, Elizabethton, April 27, 1947.*

## NEWS NOTES AND COMMENTS

### NOTICE TO ALL LICENSED PRACTITIONERS OF MEDICINE

The Seventy-Fifth General Assembly of the State of Tennessee enacted into law Chapter 9, Public Acts of 1947, which provides for a State Licensing Board for the Healing Arts. This law requires that all licensees must make application to the Board sometime between July 1, 1947, and September 30, 1947, for a registration certificate and submit with the application a *certified check* or a *postal money order* for \$2.50 as a fee.

Failure to register during the above-mentioned period carries certain penalties, and, therefore, we urge that you make your application as soon after July 1 as is practicable. The law provides that any licensee who has retired from practice may submit an affidavit on a form supplied by the Board, stating that he has retired from practice; and when this is done and the retiring physician has registered one time, no further registration is necessary, unless he at some time in the future resumes practice in Tennessee.

In order to make registration as easy as possible, we shall have prepared and mailed to you sometime after June 15 the following:

- (1) A copy of the law
- (2) A summary of the law and rulings of the Board
- (3) A form for making application for a certificate of annual registration.

If this material does not reach you by July 15, you should address a communication to the Chairman of the State Licensing Board for the Healing Arts, 420 Sixth Avenue, North, Nashville 3, Tennessee, and request an application form for filing an application for a certificate of annual registration.

R. G. B. STEPHENSON,  
*Chairman.*

Paul G. Morrissey, Jr., M.D., announces the removal of his office to Church Street at Twenty-First Avenue, North, Nashville, for the practice of surgery.

William Henry Ries, M.D., announces the opening of his office for the practice of psychiatry at 2419 West End Avenue, Nashville.

Cecil E. Newell, M.D., announces the removal of his offices to and the opening of the Cecil Newell Clinic, 407 Fifth Street, Chattanooga.

## MEDICAL SOCIETIES

### *Knox County:*

May 13: "Sodium Pentothal," by Dr. Alvin Weber. Discussion by Drs. William Tipton and Spencer Bell.

May 27: "Evaluation of the Peptic Ulcer Problem with the Various Forms of Treatment, Including Vagotomy," by Dr. Robert K. Dixon, Detroit, Michigan.

### *Davidson County:*

May 20: Memorial Service.

May 27: "Hypertension," by Dr. Hugh Morgan. Appearing with Dr. Morgan were Dr. Burnett Wright and Dr. Cobb Pilcher.

There will be no further meetings of the Society until September 1.

### *Washington-Carter-Unicoi:*

The regular monthly meeting of the Washington-Carter-Unicoi County Medical Society was held at the Hotel Erwin, May 13. There were forty-two members and guests present.

The Society approved a survey to be made with a view to establishing a Cancer Clinic under the sponsorship of the Society to serve the Tri-County area. The details of the setup of this Cancer Clinic will be worked out and acted upon at the next regular meeting in June. This clinic will serve this area and examine and treat charity and indigent cases referred to it by local doctors and will be supported mainly by funds from the Women's Field Army for the Control of Cancer.

The speaker of the evening was Dr. Earle Glendy of Roanoke, Virginia, whose paper was on the "Hopeful Aspects of Cardiovascular Disease." He discussed the newer methods of drug therapy in cases of what were previously considered hopeless heart disease. He also discussed new operative techniques for congenital heart lesions by which patients may be restored to reasonable health in conditions that were formerly



considered fatal. Surgery is playing a large role in the treatment of certain heart diseases in which there are abnormalities of the blood vessels about the heart. By means of transplanting these vessels and obliterating certain defects which are present, the function of the heart may be restored to near normal.

WALTER D. HANKINS, M.D.,  
*Secretary-Treasurer.*

## OTHER MEDICAL SOCIETIES

The one-hundred-fifth semiannual meeting of the Middle Tennessee Medical Society was held in Woodbury on May 22, 1947.

The following papers were read:

"Otitis Media," by Dr. Lee Cayce, Nashville. Discussed by Drs. James Miller, Columbia, and T. G. Gordon, Murfreesboro.

"Handling of Cardiac Emergencies," by Dr. Thomas F. Frist, Nashville. Discussed by Drs. James Loveless, Gallatin, and James Boykin, Murfreesboro.

"Some Notes on the Newer Drugs in Dermatology," by Dr. R. N. Buchanan, Jr., Nashville. Discussed by Dr. Thayer Wilson, Carthage.

"Causes and Management of Emotional Maladjustments in Children," by Dr. R. C. Kash, Lebanon. Discussed by Drs. John Lee, Nashville, and J. C. Overall, Nashville.

"Surgical and Obstetrical Trauma Resulting in Urogenital Fistula," by Dr. Lynch Bennett, Nashville. Discussed by Drs. C. S. McMurray, Nashville, and Burnett Wright, Nashville.

"Some of the Mistakes I Have Made in Twenty-Five Years of General Practice," by Dr. Thayer Wilson, Carthage. Discussed by Dr. W. H. Witt, Nashville.

Presidential Address, by Dr. W. J. Johnson, Pulaski.

"Segmental Neuritis and Its Relation to Differential Surgical Diagnosis," by Dr. C. S. McMurray, Nashville. Discussion by

Drs. Hamilton Gayden, Nashville, and Stanley Barham, Murfreesboro.

"Recent Developments in the Treatment and Control of Syphilis and Gonorrhea," by Dr. William Frye, Nashville. Discussion by Drs. R. C. Kash, Lebanon, and Thomas F. Frist, Nashville.

"Low Back and Sciatic Syndrome," by Dr. Eugene Regen, Nashville. Open discussion.

Dr. Clarence S. Thomas, Nashville, was elected president; Dr. Carl E. Adams, Woodbury, vice-president; and Dr. C. N. Gessler, Nashville, re-elected secretary-treasurer.

The group also voted to meet in Winchester in the fall and at Fayetteville next spring.

## ABSTRACTS OF PAPERS PRESENTED AT VANDERBILT MEDICAL SOCIETY MAY 2

1. "Case Report: Carcinoid of the Appendix with Metastases." By Dr. B. F. Byrd, Jr.

A case was presented of a fifty-year-old white female with a one-year history of cramping, intermittent, lower abdominal pain. For six months before admission the patient had visible lower abdominal peristalsis moving across her abdomen and terminating in a mass in the right lower quadrant. This mass had not been constant and developed and disappeared several times each day.

Physical examination at admission showed a mass five by eight centimeters, stony hard, slightly tender, freely movable, and in the right lower quadrant of the abdomen. She was mildly anemic. Barium enema showed good filling of the large bowel to the cecum. At operation a large mass was found involving the cecum and terminal ileum. The right side of the colon, terminal ileum and a portion of the transverse colon were removed. The patient was discharged on the twelfth postoperative day in good condition.

The specimen removed at operation contained a tumor mass constricting the cecum. The mass was yellowish in color and there was some involvement by the tumor of the regional mesenteric lymph nodes. The gross findings in the terminal ileum were suggestive of repeated intussusception due to tumefaction.

The microscopic picture of the tumor was typical of an argentaffinoma. This was the fourth carcinoid of the appendix found at Vanderbilt Hospital and was interesting because: (1) the metastases; (2) the presence of obstruction; and (3) the recurring intussusception.

The case was discussed by Dr. Barton McSwain.

2. "A Study of Murine Typhus Fever in Nashville." By. Dr. Addison B. Scoville.

This paper was discussed by Dr. W. W. Frye.

3. Review of One Hundred Eighteen Cases of Pregnancy Complicating Tuberculosis." Drs. Hollis Johnson, John Burch, Sidney McClellan, and Scott Bayer.

This paper was discussed by Drs. Sidney McClellan and Scott Bayer.

#### THE AMERICAN CONGRESS OF PHYSICAL MEDICINE

The American Congress of Physical Medicine will hold its twenty-fifth annual scientific and clinical session September 2-6, inclusive, at the Hotel Radisson, Minneapolis. Scientific and clinical sessions will be given the days of September 3-6. All sessions will be open to members of the medical profession in good standing with the American Medical Association. In addition to the scientific sessions, the annual instruction courses will be held September 2-5. These courses will be open to physicians and the therapists registered with the American Registry of Physical Therapy Technicians. For information concerning the convention and the instruction course, address the American Congress of Physical

Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

The fifty-third annual meeting of the Upper Cumberland Medical Society will be held at Red Boiling Springs, Tennessee, June 24, 25, 1947.

Officers for the Society are: Dr. A. B. Qualls, Livingston, President; Dr. Myrtle Lee Smith, Livingston, First Vice-President; Dr. Peery Sloan, Jamestown, Second Vice-President; Dr. R. E. Key, Carthage, Third Vice-President; and Dr. L. M. Freeman, Granville, Secretary-Treasurer.

The fifty-third annual meeting of the West Tennessee Medical and Surgical Association was held in Dyersburg on May 22, 1947. The following papers were read:

"Hyperthyroidism," by Dr. J. A. Crisler, Memphis.

"Notes on Diabetes," by Dr. Henry Gotten, Memphis.

"Treatment of Varicose Veins of Leg," by Dr. Baker Hubbard, Jackson.

"The Geriatric Patient," Dr. J. G. Price, Dyersburg.

"Relief of Vascular Emergencies in Pregnancy," by Dr. Robert A. Hingson, Memphis.

"Some Common Epidermal Sensitizations," by Dr. James Burks, Jr., New Orleans.

Officers elected were Dr. George R. McSwain, Paris, President; Dr. John C. Pearce, Jackson, Vice-President; Dr. Leiland M. Johnston, Jackson, Secretary-Treasurer.

#### ABSTRACTS OF CURRENT LITERATURE

##### ANESTHESIA

By H. M. AUSHAMAN, M.D.  
Medical Arts Building, Chattanooga

Movement of Body Water in Response to Acute Blood Loss. T. S. Danowski, J. R. Elkinton, and A. W. Winkler. *American Journal of Physiology*, Vol. 147, p. 306, October, 1946.

Following acute blood loss the anemia which results represents a re-expansion of the plasma.

volume without replacement of the erythrocytes. In the untreated postabsorptive subject the water and the erythrocytes of the interstitial space and of the cells are the only possible sources of this fluid.

It has been found that cell water does not contribute to this re-expansion of the plasma volume. These investigations on the fluid transfer following acute blood loss were made in nonfasting dogs, using the chloride balance to measure changes in the extracellular fluid volume. Alterations in the volume of extracellular fluid were calculated from changes in the serum concentration and the net balance of chloride according to the usual procedure. The changes in the volume of cell water were obtained by subtracting the changes in extracellular water from the change in total body water. The water balance was derived from the change in body weight, corrected for water solids ingested, excreted, or removed in the blood sample.

The serum protein concentration and the relative cell volume dropped sharply during the first hour following acute blood loss. The changes indicate that the plasma volume has re-expanded. Since it is usually not possible to detect any significant alteration in volume of either the extracellular or intercellular fluid, plasma must have been replaced by interstitial fluid alone. For animals in negative water balance, as a result of starvation and dehydration, the decrease in body water was predominantly intracellular. With adequate intake during recovery from hemorrhage, the depleted extracellular fluid is evidently replenished from exogenous sources rather than by movements of water from the cells.

## CARDIOLOGY

By J. ALLEN KENNEDY, M.D.  
Bennie-Dillon Building, Nashville

**The Surgical Treatment of Essential Hypertension.**  
James L. Poppen and Charles Lemmon, Boston. *The Journal of the American Medical Association*, Vol. 134, No. 1, pp. 1-9, May, 1947.

That hypertension is a disease that must remain primarily the problem of the internist is not questioned by the surgeons interested in the surgical aspect of treatment. Several noteworthy series of cases of extensive thoracolumbar sympathectomies have been reported (bibliography given).

The results of one hundred consecutive cases in which extensive thoracolumbar sympathectomy was performed were selected for study. These were performed one and one-half to four years ago. Early in this series the operation extended from the ninth thoracic to the second lumbar ganglia. Later in the series the sympathetic chain was resected to a higher and higher level until the last patients in the series had resections from the fifth thoracic to the second lumbar ganglia.

Results were recorded as good in forty-seven per cent of patients, fair in twenty-four per cent, unsatisfactory in twenty-two per cent, fatal in seven per cent (this included six patients who died following discharge from the hospital). Blood pressure results were considered good "when the patient was symptomatically relieved of his hypertensive complaints, was in good physical condition, and when the blood pressure dropped to and remained at a level generally accepted as non-dangerous."

Eight cases showed evidence of regeneration of sympathetic nerves and are considered possible candidates for further operation.

These authors consider as contraindications to the operation cardiac failure, renal failure, severe retinal arteriosclerosis. Patients with early and mild hypertension are not operated on. Cerebrovascular accidents are not considered a contraindication. Considerable caution should be exercised in patients with angina pectoris, auricular fibrillation, or gallop rhythm.

In this series of one hundred cases, six nephrectomies were performed in combination with extensive bilateral sympathectomy.

**Medical Evaluation of the Surgical Treatment of Hypertension.** Robert Sterling Palmer, Boston. *The Journal of the American Medical Association*, Vol. 134, No. 1, pp. 9-14, May, 1947.

Since it has been observed that most patients with essential hypertension have well-defined spontaneous lowering of the blood pressure for various periods, the duration of the blood pressure fall following operation is important for critical evaluations of these patients following sympathectomy.

The present paper is a follow-up of sixty-eight patients who have been followed for three years or more postoperatively. During this three-year period, thirty per cent have died, forty-five per cent remained or have become hypertensive, while twenty-five per cent have had normal or near-normal blood pressures.

This result is compared with a control group of one hundred patients with hypertension treated on a medical regime in which it was found that a sustained fall of blood pressure to normal or near normal levels occurred in about twelve per cent.

The author states that in the present series of patients there has been a diminishing rate of favorable results the longer the patients are followed. Early in the series the percentage of favorable results was about seventy. This declined when patients were followed for three to five years to about twenty-five per cent.

The author concluded that a favorable result is obtained twice as frequently by surgical sympathectomy as careful medical regime.

In this series the patients with the greatest vasospastic element received the greatest benefit from the operation.



**DERMATOLOGY**

By CLARENCE SHAW, M.D.  
1013 Provident Building  
Chattanooga 2

The Cost of Venereal Disease Contact Investigation in Tennessee. Emerson L. Crowley and C. B. Tucker. *The Journal of Venereal Disease Information*. Vol. 1, p. 81, May, 1947.

Tennessee public health officials believe that contact investigation intelligently done is one of the most effective methods of case finding and deserves precedence over other techniques. Investigators include a junior employee and a senior investigator who, in addition to educational requirements, are chosen from the standpoint of tact, judgment, ability to express themselves clearly, and to plan and direct the work of others. After a one- to two-week period of orientation in a rapid treatment center, the worker is assigned to a county with one of the best investigators for two weeks of intensive training, after which he is sent to the county where he is to work. In some areas there are public health nurses employed full time in venereal disease control work.

Costs were charged to contact investigation as follows: (1) the cost of interviewing, including patient education; (2) the cost of field investigation; and (3) travel and other incidental expenses directly attributable to field location. Seven counties employing fourteen full-time workers during a sample month (July, 1946) were selected from this evaluation. Total salaries were \$2,211. Four hundred and one infected contacts were brought to treatment as a result of contact investigations, of whom forty-four had either primary or secondary syphilis. The maximum cost of bringing to treatment a case of open-lesion syphilis is thus shown as \$63.93, which is a lower figure than that found recorded from any other method of case finding.

**GYNECOLOGY**

By HAMILTON V. GAYDEN, M.D.  
649 Doctors Building, Nashville

A Report of Thirty Years' Experience with Gynecoplastic Repair Operations Immediately After Childbirth. Jacob L. Bubis, M.D., Cleveland, Ohio. *American Journal of Obstetrics and Gynecology*, Vol. 53; No. 5, pp. 787-794, May, 1947.

The author is one of the pioneers who since 1916 has been very active in his support of the value of repair during the puerperal period of old, new, or combined injuries caused by childbirth. Although many have shown the advantage of these procedures, the fact remains that the majority of obstetricians are still hesitant to do this work and

continue to regard it as "too radical." The salient points and detail results of the essayist's personal experience are restated. Since the results over thirty years show conclusively that the hazards of childbirth are not increased by immediate repair operations (provided no surgical contraindications are present), since the technique has been well standardized and has proved practical in the hands of various obstetricians, and since the health and comfort of the patients are so greatly improved by these methods, at enormous saving both to the patients and to the community, it is difficult to see why puerperal gynecology has not been more generally adopted. As far as the future welfare of the mother is concerned, it is relatively unimportant how cleverly the accoucheur has manipulated the delivery, if he has neglected to carefully examine the genitals and repair any lacerations that may be present. The student, the practicing physician, and even the specialist must appreciate the difficulties as well as the advantages of this type of obstetric care and train toward perfection of technique as in any branch of major surgery. The record of the author's cases over this long period are indisputable proof in refuting certain charges which have been made against the advisability of performing gynecoplastic repair immediately after childbirth. A few important points must be stressed. Repair immediately after the delivery has many surgical advantages. One anesthesia serves for both delivery and operation. Danger of infection and its attendant morbidity are reduced. It has been proved that bacteria multiply in the uterus within two or three days after delivery; usually they are innocuous, but sometimes become pathogenic. The morbidity and mortality has been lower than that reported by institutions in which no gynecoplastic operations were performed during the puerperal period. In fact, since 1930, there has not been one maternal death that could possibly be attributed to a repair operation. In earlier years, most of the patients left the hospital by the fourteenth to the sixteenth day. This was later cut to about twelve days. During the last few years, when hospital facilities have been so strained, the time has been greatly reduced, and most of the mothers now leave the hospital on the fifth day, as is customary in other hospitals in which puerperal operations are not performed. So far, the author has not found that there is any injurious effect on the mothers in thus shortening their stay in the hospital. It is discouraging to find that numerous papers on progress in obstetrics omitted mention of these procedures in modern obstetric care. Since the results have been so eminently satisfactory and the advantages so obvious, it is indeed difficult to see why so many remain indifferent to this type of puerperal care or refuse to acquire the necessary skill to practice it.

## INDUSTRIAL MEDICINE

By JEAN SPENCER FELTON, M.D.  
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Public Exposure to Lead. Philip Drinker. *Occupational Medicine*, Vol. 3, p. 145, February, 1947.

Professor Drinker, of the Harvard School of Public Health, discusses the ordinary exposure to lead other than industrial sources. The standard for lead in drinking water is 0.1 part per million or 0.1 milligram per liter, a figure applicable to all beverages. The daily ingestion of about 0.5 milligram of lead in food or drink and the intermittent ingestion of somewhat more is safe, but the daily ingestion of quantities greater than 0.5 milligram may cause trouble. In industry the permissible level of lead dust is 1.5 milligrams per ten cubic meters, which is the volume of air supposedly breathed in an eight-hour work day.

With the average person conducting many of his own household repairs exposure to lead paint is probable. For outside work, lead is usually preferred, but inside paints need not be lead. Sandpapering old lead paint or burning it with a torch is hazardous, but the ordinary amateur job is of short duration. Exposures from the use of white lead putty in home glazing are usually too brief for toxicity. Lead painted toys and furniture are rare in the United States now, and resultant poisoning is not common.

Although at first it was anticipated that the use of gasoline containing minute amounts of tetraethyl lead would be hazardous, education of the public has been complete and effective. It is only through the use of leaded gasoline for such things as dry cleaning or as a fuel in gasoline stoves has any toxicity been noted. Ordinarily the consumption of lead gasoline as automobile fuel is non-hazardous. Instances of poisoning have occurred among individuals who, in salvaging scrap, have burned old automobile batteries.

In days gone by there was a lead hazard from plumbing when certain pipes were made of lead or plumbing systems contained considerable sections made of lead. Now, however, there is little lead burning or joint wiping carried on, and this source is no longer of consequence from the point of view of poisoning. During the period of prohibition, patients were encountered in city hospitals who had drunk wine made in containers from which lead dissolved. Lead colic was seen among those drinking home brews distilled and condensed in lead coils. These examples are largely in the past.

Lead arsenate has been used as a spray on fruits, and infrequently the man doing the spraying can be subjected to considerable lead exposure. Most large orchards today, however, wash off the residue with suitable chemicals.

Most shops and garages in villages and towns handle some welding repair jobs, and whether lead

poisoning can result from such work depends on the length and severity of the exposure of the worker. Generally it is short, but frequently concentrations of lead may be breathed in excess of the level recommended.

Professor Drinker concludes that lead poisoning among the population at large is rare, but it was not rare fifty years ago. Industry knows what industrial lead poisoning means, and it does not belittle the toxicity of lead, but it resents unsubstantiated accusations against lead.

## OBSTETRICS

By MILTON SMITH LEWIS, M.D.  
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The Treatment of Prolonged Labor with Posterior Pituitary Extract. D. E. Reid. *American Journal of Obstetrics and Gynecology*, Vol. 52, pp. 719-734, 1946.

The problem of prolonged labor in the absence of cephalopelvic disproportion is one of the major problems in obstetrics, and a single satisfactory method of treatment does not exist for this group of dystocia patients whose cervixes fail to dilate completely.

When X-ray pelvimetry has ruled out absolute disproportion in these cases of uterine inertia, one of two courses of action is open. The first involves resting the patient at intervals and keeping her in positive fluid balance with the view that she will eventually deliver herself. The second course of action stems from the attitude that once the cervix begins to dilate progress should be definite and sustained. When the progress of labor as determined by sterile pelvic examination first deteriorates posterior pituitary extract should be utilized to stimulate labor. If no effective uterine contractions or progress has been obtained after one to four minim doses have been used, covering a period of one to three hours, it is reasonable to discontinue the drug and turn to other means of completing labor.

This second policy in handling cases of prolonged labor using posterior pituitary extract at the Boston Lying-In was formulated from a review of 1,609 cases given posterior pituitary extract. This series comprised 767 private patients and 842 clinic cases and was further subdivided into complicated (labors over twenty hours) and uncomplicated groups of uterine inertia.

The results of this study are tabulated in a number of charts. It is clearly shown that age and parity go hand in hand; two-thirds of the cases were primiparas and two-thirds were under thirty years of age.

About three per cent of the complicated clinic group were classified as "dangerous multiparas," those having definite or borderline cephalopelvic disproportion.

The station of the head at the onset of labor was not a factor in the production of prolonged labor.

The over-all average of the first stage of labor in the uncomplicated group fell between six and eight hours. In the complicated group (ninety per cent) the first stage was about thirty hours' duration. The length of the second stage in the complicated and uncomplicated groups showed a marked contrast, in that clinic patients were subjected to many more hours of labor. The explanation was threefold. When responsibility is dependent upon one person (private cases), the tendency is for a shortened second stage; an increased amount of pituitrin was used in the private cases; and an attempt was made to reduce the midforceps deliveries by allowing the head to descend to the perineum for easy outlet forceps.

There was a higher incidence of midforceps operations in the private series and a low incidence of cesarean section. It was just the opposite in the clinic patients.

A much larger single dose of pituitrin was used in the private series as well as a greater total amount of drug per given labor. It was also administered earlier in labor in the private series.

The fetal mortality (stillbirth and neonatal deaths) in this series has been corrected for premature infants, congenital defects, erythroblastosis, fetal death in utero at onset of labor, fetal death due to prolapse of the umbilical cord, premature separation, placenta previa, breech extraction, contracted pelvis, and difficult forceps not associated with prolonged labor.

The corrected irreducible fetal mortality in all the clinic patients during the past five years was 0.33 per cent. In the uncomplicated group there was a 0.69 per cent mortality in the private and 0.63 per cent in the clinic series. Complicated cases in the private series showed a corrected mortality of four per cent while the clinic series was 11.65 per cent. Intrauterine asphyxia was the most frequent cause of fetal death.

The high fetal mortality rate in the clinic series represents the effect of prolonged labor on the infant. In clinic patients subjected to over forty hours of labor (twenty-six), the fetal mortality was twenty-nine per cent.

## PROCTOLOGY

By O. C. GASS, M.D.  
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Reduction of Rectal Prolapse. J. F. Wengel, M.D., Associate Proctologist, St. Mary's Hospital, Detroit, Michigan. *American Journal of Surgery*, Vol. 73, No. 5, May, 1947.

A search of ten years of American literature reveals a preponderance of information on the treatment of rectal prolapse, but little is said relative to reduction. Reduction by manual manipu-

lation and by the index finger covered with gauze, cotton, or paper is described. The method reported in this paper has been successful after failure with the above methods.

Recalling the lectures of Dr. E. G. Martin on the initial phases of rectal prolapse (eggeration of the normal colorectal intussusception), it seemed mechanically more sound to reduce the prolapse from above the ring of constriction rather than manipulate the protruding mass from below. After the administration of papaverine one-half gram intravenously and morphine one-sixth gram hypodermically, an oval-shaped placental forceps with a well-lubricated ball of cotton was inserted through the constricted ring to the angulated portion of the sigmoid. The lubrication prevented traction on the edematous mucosa at the constriction. The reduction occurred almost spontaneously without the need of force. This experience has been repeated in six cases.

The method is of advantage because it avoids trauma to the already devitalized bowel. The ease of reduction following the introduction of the forceps is most gratifying. The need of postponing reduction until the subsidence of edema by the use of hot packs or adrenalin is obviated.

Of course, gangrenous bowel should not be replaced. In conclusion, a nontraumatizing method for the reduction of rectal prolapse is reported. There is probably nothing original in this method, yet it has not become common knowledge.

## ROENTGENOLOGY

By P. H. DIETRICH, M.D.  
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Leukosarcoma. Franklin B. Bogart, M.D. *American Journal of Roentgenology and Radio Therapy*, Vol. 55, pp. 743-753, June, 1946.

The author reports fully with autopsy findings two cases of leukosarcoma. This clinical entity (Sternberg, 1908) is described as having palpable lymph nodes early in the course. Petechiae may also be present. There soon develops a mediastinal tumor which involves the thymus and frequently causes respiratory distress and edema of the face and neck. The disease runs a rapid course and terminates fatally in a few weeks to a few months. The blood picture, at first normal, changes to that of an acute lymphatic leukemia in its terminal phase.

Diagnosis is based upon biopsy of an enlarged lymph node.

Dr. Bogart considers roentgen therapy indicated "when the mediastinal enlargement or other glandular masses are causing circulatory or respiratory distress." It is claimed that "when the patient is seen before the leukemic phase of the disease and when there is a very large mediastinal mass producing embarrassment of respiration and block-



ing adequate circulation of the head and neck, the response to roentgen therapy is prompt and dramatic. Gross reduction in the tumor mass with relief of the distress and edema within twenty-four to forty-eight hours after the administration of 200 r to 400 r should cause the radiologist to suspect that he is dealing with a leukosarcoma. Roentgen therapy does not influence the course of the disease which usually terminates fatally."

The second case reported was irradiated, giving 1,000 r to two fifteen by fifteen centimeter fields which covered the superior mediastinum and the lower half of the cervical region. Alternate fields were treated daily, giving 200 r to a total of 1,000 r. In forty-eight hours after each field had re-

ceived 600 r, the mediastinal tumor and edema of the face and neck had entirely disappeared. This patient's leukocyte count on admission was 8,500, rose to 24,000 in about one month, and then gradually fell to 9,000 twenty-four hours before death. This leukemic phase was thought by some of the early workers to be due to the roentgen therapy. However, the first case in this report received no roentgen therapy, but ran the same acute course with a leukocyte count reaching 310,000 and also terminated fatally.

The cases are very fully presented and well illustrated.

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## DIAGNOSIS AND TREATMENT OF MENINGITIS IN CHILDREN\*

ABRAHAM LEVINSON, M.D., Chicago†

Meningitis occurs more frequently in children than in adults. As a matter of fact, it is essentially a disease of childhood.

In a series of cases seen at the Children's Division of the Cook County Hospital, tuberculous meningitis was found to be most prevalent between one and two years of age. Our experience was the same with influenzal meningitis. More than fifty-two per cent of our cases occurred in infants under one year of age and about forty-eight per cent between one and two years of age. Pneumococci meningitis presented the same age group pattern, although it attacked older as well as younger children.

Before we discuss the diagnosis and treatment of meningitis, it would be advisable to point out several significant facts regarding the disease:

1. Not all meningitides are of bacterial origin. Some are due to a virus infection. Mumps and lymphocytic choriomeningitis belong in this category. Occasionally one encounters syphilitic meningitis or torula meningitis.

Not all meningitis is infectious. The injection of a chemical or serum into the

spinal canal will produce a noninfectious meningitis. Trauma may also have the same effect.

We may, therefore, classify meningitis into the following types: bacterial, virus, syphilitic, torula, and noninfectious. The most important type of meningitis from the standpoint of treatment is the bacterial.

2. The prevalence of a particular form of bacterial meningitis may vary a great deal from year to year. Sometimes meningococcal meningitis and at other times tuberculous meningitis heads the list. Occasionally one finds other forms of purulent meningitis predominating.

3. Different types of the disease appear in different racial groups. Tuberculous meningitis is found most frequently among Negroes and Mexicans.

In a series of two hundred cases of meningitis seen at the Children's Division of the Cook County Hospital, where many of the patients are Negroes, eighty-six cases, or forty-three per cent, of the total were tuberculous meningitis; forty cases, or twenty per cent, of the total were pneumococcal meningitis; and thirty-nine cases, or nineteen and one-half per cent, of the total were influenzal meningitis. Two cases were due to the bacillus coli and one to the paracolon. There were some instances in which it was almost impossible to ascertain the causative organism.

4. There is a new trend of thought in regard to the pathogenesis and pathology of meningitis. We have learned that meningitis of all bacterial types is hematoge-

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nous in origin. Meningococcic meningitis, for instance, is really a meningococcemia. The meningococci are found in the blood stream, in the endocardium, and in the other organs of the body as well as in the skin. In other words, the meningitis is part of a bacteremia. There is a positive blood culture in many cases of other bacterial types of meningitis indicating a bacteremia.

5. Not only are the meninges involved in meningitis, but also the brain proper, sometimes to such an extent that the encephalitic symptoms are more pronounced than meningitic.<sup>1</sup> Tuberculous meningitis, in particular, should be considered not as a meningitis, but as a meningoencephalitis. This is evidenced clinically and in the microscopic sections of the brain where the blood vessels show marked lymphocytic infiltration.

6. Every meningitis produces a dilatation of the ventricles or an internal hydrocephalus. That is why hydrocephalus is one of the most frequent complications of meningitis in children. Years ago we did encephalographies on patients with tuberculous meningitis in the hope that we could prolong the patient's life if we drained all the fluid out of the brain. We didn't succeed, of course, but we learned through X-ray that the ventricles are markedly dilated and the brain very edematous. These findings were corroborated at autopsy.

7. Every meningitis has an involvement not only of the meninges of the brain, but also of the meninges of the cord. In other words, every meningitis is a "cerebrospinal meningitis" pathologically.

#### CLINICAL COURSE

The meningeal symptoms in infants and children are distinctly different from those in adults. In adults, the classical signs of meningitis are neck rigidity, Kernig sign, and Brudzinski sign. In children, these symptoms and signs are not always present. On the other hand, convulsions, which may not manifest themselves in adults at all, are very frequent in children. Cough and otitis media are also much more frequent

in children suffering from meningitis than in adults.

The most significant sign in infants is a bulging fontanelle. It is therefore important to remember that a sick infant with a bulging fontanelle should make one suspicious of meningitis. This is particularly true in the newborn in whom the absence of the classical signs of meningitis is particularly marked. Often the only meningeal sign present is a bulging fontanelle.<sup>2</sup>

The differential diagnosis of meningitis in children is no simple matter. We have to differentiate it from meningism—that is, meningeal symptoms without spinal fluid changes, such as occur in pneumonia, tonsillitis, otitis media, or pyelitis. We also have to consider encephalitis, acute anterior poliomyelitis, tetanus, brain tumor and abscess, lead and other encephalopathies, and intracranial hemorrhage.

There is only one way to make a final diagnosis of meningitis, and that is by spinal puncture. Those who claim that one can make a diagnosis of meningitis without a spinal puncture are too optimistic. A positive blood culture diagnoses the type of bacteremia, but it does not prove the presence of meningitis.

One should be cautioned against the use of cisternal puncture for diagnosis. The cisterna magna is so close to the medulla that one may produce a hemorrhage resulting in ataxia or death. A bloody spinal tap produces no harm, but a bloody cisternal tap may do a great deal of damage. Several years ago I saw a child who had had a cisternal puncture followed by hemorrhage around the medulla that resulted in death.

#### EXAMINATION OF THE CEREBROSPINAL FLUID

The physician should know the most essential facts in the examination of the cerebrospinal fluid. Of course, one can always send the fluid to the laboratory for examination, but not every laboratory worker, unfortunately, can be depended on to interpret the spinal fluid findings correctly. The doctor should, therefore, familiarize himself with the characteristics of normal spinal fluid and with the deviations from

normal found in pathological conditions. Then he can make his own interpretation of the laboratory test.

Normally from five to ten cubic centimeters of cerebrospinal fluid is obtained by a single puncture. The fluid is clear and colorless. The pressure in a child is about seventy to ninety millimeters of water. The cells, which are all lymphocytes, are one to eight per cubic millimeter. Sugar is anywhere from thirty-eight to seventy-five milligrams per one hundred cubic centimeters. The protein is five to forty-seven milligrams with an average of twenty-five milligrams per one hundred cubic centimeters of fluid. The chlorides average seven hundred milligrams per one hundred cubic centimeters.

In purulent meningitis, the fluid is turbid. In tuberculous meningitis, the fluid is clear or opalescent. The amount of fluid obtained at one sitting in any case of meningitis is greatly increased, sometimes being as high as thirty cubic centimeters.

The formation of a pellicle is significant. The fluid is permitted to stand at room temperature for an hour or two. If at the end of that time a pellicle forms, it is suggestive of meningitis. The pellicle varies in the different types of meningitis.

The determination of the number and type of cells is very important. First, as to the increase in number: the more severe the meningitis, the greater the number of cells in the fluid. Secondly, the type of cells: in tuberculous meningitis, the cells are mainly lymphocytes; in purulent meningitis, the type of cell is polymorphonuclear. In addition, there is a cell which we call desquamated endothelial cell. This is a very large, hexagonal cell with an eccentrically placed nucleus and transparent protoplasm.

This cell,<sup>3</sup> which I described many years ago, is now rarely seen, since most of the patients recover. At the time that patients with a severe meningitis used to succumb to the disease, this type of desquamated cell was found frequently in the fluid. It indicated marked destruction of the meninges.

To determine the increase of protein in the fluid, a drop of fluid is put into a dilute

carbolic acid solution known as the Pandy reagent. Normally the fluid remains clear. In inflammations of the meninges, however, the solution becomes turbid. Wherever possible, it is advisable to determine the exact amount of protein in the fluid by quantitative methods.

The amount of glucose in the spinal fluid is of great significance in the diagnosis of meningitis. In virus meningitis, the glucose is normal in amount. In all forms of bacterial meningitis the glucose is reduced, sometimes to zero. Any marked reduction of glucose in the spinal fluid, therefore, speaks for a bacterial meningitis.

The chlorides in the spinal fluid have been overemphasized. In tuberculous meningitis the chlorides are reduced, sometimes to five hundred milligrams or less. They are also reduced in purulent meningitis, but to a lesser degree. However, the reduction of chlorides in the spinal fluid is not as significant as the reduction of the glucose.

One must remember, however, that the final diagnosis of meningitis must be made, not on the glucose nor on the chlorides, but on the actual finding of the bacteria in the spinal fluid smear and in the culture.

#### TYPES OF MENINGITIS

Meningitis, caused by the meningococcus, attacks not only the meninges, but also the brain and other organs of the body. It is part of a meningococcemia. It has an acute onset. One of the most important symptoms or signs of meningococcemia is the presence of petechiae or purpura and joint pains. There is practically always a positive blood culture. The cerebrospinal fluid is turbid, and a pellicle forms on standing. The pressure is increased, as is the protein. There are one thousand or more cells, mainly polymorphonuclear. Sugar is decreased or entirely absent. Gram-negative, intracellular diplococci are found in the cerebrospinal fluid smear and in the petechiae.

*Pneumococcic Meningitis.* The symptoms are the same as in all other types of meningitis. The onset is acute, the temperature high. The fluid is purulent and pneumococci are present in the cerebrospinal fluid, smear, and culture. In some cases of pneumococci meningitis there may be many bac-



teria and only a few cells—an observation I pointed out many years ago.<sup>4</sup> Recurrences are more frequent in pneumococci meningitis than in any other form of meningitis. I saw a child who had had four recurrent attacks.

*Tuberculous Meningitis.* In tuberculous meningitis, there is usually a history of contact with a tuberculous individual. The onset is slow, the temperature only slightly elevated at first. There are the classical signs of meningitis with frequent paralysis of the eye muscles. Occasionally there are choroid tubercles. The tuberculin tests are usually positive at first, but become negative later.

The spinal fluid is clear or opalescent. The pressure and protein are increased, as are the cells which are mainly lymphocytes. The sugar and chlorides are decreased. Tubercle bacilli are found in the smear and culture of the fluid and on guinea pig inoculation. There is an exudate around the base of the brain. There are tubercles on the cortex in other parts of the brain.

In most cases of tuberculous meningitis there is a generalized miliary tuberculosis. The lungs and other organs are studied with tubercles. The meningitis is usually part of the miliary process. Occasionally tuberculous meningitis is secondary to a tuberculoma of the brain.

Tuberculous meningitis passes through three stages: the irritative, the meningitic, and the encephalitic. The terminal stage is the encephalitic. Tuberculous meningitis is therefore tuberculous meningoencephalitis.

Although the final diagnosis of tuberculous meningitis can be made only upon the finding of the tubercle bacilli in the smear or culture and guinea pig inoculation, it is really very difficult to find tubercle bacilli in the spinal fluid smear. The culture, such as the Herold egg medium, takes at least ten days, and the result of the guinea pig inoculation from four to six weeks. However, earlier evidence of the presence of the disease can be obtained through chemical tests, such as the Levinson test. The Levinson test consists of the following:

In one small test tube one cubic centimeter of cerebrospinal fluid is introduced and one cubic centimeter of two per cent mercuric chloride added to it.

In another test tube one cubic centimeter of cerebrospinal fluid is introduced and one cubic centimeter of three per cent sulfosalicylic acid added to it.

Normally only a small amount of precipitate is noted in either tube.

In tuberculous meningitis, however, the mercuric chloride precipitate measures from sixteen to eighteen millimeters. The sulfosalicylic precipitate is much smaller. The ratio of the two precipitates is at least two to one; in many cases three to one.

Although the Levinson test is not the final diagnostic test, it has been helpful very often in diagnosing cases early, long before one is able to find the tubercle bacilli.<sup>5-6</sup>

#### TREATMENT

Now we come to the most important phase of our subject—the treatment of meningitis. Anyone who wishes to convince himself of the romance of medicine should study the progress made in the treatment of meningitis.

I remember the time when every case of meningitis, with the exception of the meningococcic type, was fatal. Pneumococcus meningitis, influenzal meningitis, and especially tuberculous meningitis, meant a death certificate. Now the mortality has been reduced to such an extent that we are apt to fall into the error of considering meningitis a mild disease. That is far from true, for every case of meningitis still carries with it potential danger. In spite of all chemotherapy, meningitis is still to be looked upon as a severe disease with many complications and often grave danger of death.

In meningococcic meningitis, our first line of defense is sulfonamides, our second penicillin.<sup>7</sup> In pneumococcic meningitis, it is penicillin first and sulfa second. In severe cases, both should be used.

We used to treat pneumococcic meningitis with antipneumococcic serum. Then in 1942, 1943, and 1944, we used both pneumococcic serum and sulfa, but all the cases

died. In 1945, we used sulfa and penicillin, and only two out of thirteen died, a mortality of less than 15.4 per cent. Encouraged by our results, we administered the same treatment the following year, 1946, and had a mortality of sixty-two per cent.<sup>5</sup> These facts merely go to show that one cannot draw conclusions from the results of a single year and that one must also take into account the virulence of the organism, which may vary from year to year, and even from season to season.

The treatment of influenzal meningitis has undergone considerable changes. The cases that were treated with sulfadiazene, sulfamerazine, or sulfapyridine usually terminated fatally. When treated with serum in addition to sulfonamides, fifty per cent recovered. When we added penicillin to the treatment, in spite of the fact that penicillin is not considered effective in killing influenza bacilli, our mortality dropped to sixteen per cent.

When streptomycin became available, we eliminated the use of serum. In most cases we used penicillin or sulfa in combination with the streptomycin; in some, we used all three together. In two of our cases, we gave streptomycin alone. Out of eleven patients treated by streptomycin, only two died and nine recovered, making a recovery of almost eighty-two per cent.

In some cases I used streptomycin only intramuscularly; in others, also intrathecally. Under present conditions, I believe that every case of influenzal meningitis should receive streptomycin intramuscularly, and also sulfa or penicillin to catch not only the influenza organism but the secondary invaders.

In our cases of influenzal meningitis, the spinal fluid became sterile much more quickly with streptomycin than when treated by sulfa, penicillin, and serum combined. I believe that Alexander serum is on the way out. I also believe that it is possible to obtain a cure by giving streptomycin alone intramuscularly.

There are reports in the literature that streptomycin is effective in the treatment of tuberculous meningitis. I used it on four patients recently. Two of them, a child fourteen months old and another three

years of age, who received streptomycin intramuscularly and intrathecally, died. One of them, however, lived much longer than the average case of tuberculous meningitis.

On the other hand, we have a baby ten months old who came in in extremis, who was lethargic and had convulsions. We did not expect him to pull through the day, but now, after more than three months, he is still alive. We gave him intramuscular and intrathecal streptomycin for fourteen days, then streptomycin intramuscularly only. He is afebrile, takes his food, and appears quite well. The other patient, a colored infant six months old, is doing well after a month and a half of treatment with streptomycin.

Streptomycin, which is the only hope we have had up to date for the recovery of tuberculous meningitis, should be used in every case of the disease.

The dosage of the antibiotics is very important. Sulfonamides must be given in large doses. One cannot give a child a small dose of sulfonamides every four hours and expect him to get well. It is best to give the medication by weight. Three grains per pound body weight are given the first twenty-four hours. The initial dose should be very large, one-half the twenty-four hour dose. It may be given orally if the patient can take it, although as a rule he cannot. It should therefore be given intravenously either in saline or in 2.5 per cent glucose solution. We used to be afraid to give sulfonamides in glucose, but we have been giving it for some time without any deleterious effects. Sulfonamides can also be given subcutaneously. They are no longer given intraspinally. The three-grain dose per pound should be continued until the temperature has subsided. Then it should be reduced to two grains and gradually to one grain per pound until recovery is assured.

Penicillin is given intramuscularly. Most physicians also give it intrathecally in cases of meningitis. The intramuscular dose is 20,000 units every three hours and the intrathecal 10,000 units once every twenty-four hours. Theoretically, it is not necessary to give penicillin intrathecally, al-

though there is no harm in doing so. When a child is very ill, one is justified in using every weapon at his command. However, I believe the time will come when we will eliminate the intrathecal administration of penicillin and streptomycin.

Streptomycin is given intramuscularly, 200,000 units every three hours. When it is given intrathecally, the dose is 100,000 units once a day. In tuberculous meningitis the medication is continued for ninety days. In influenzal meningitis we used to give streptomycin for fourteen days; now we give it only for seven days. The last three patients on the seven-day treatment made a good recovery. We haven't encountered any deafness resulting from streptomycin.

Treating meningitis by drugs does not complete the treatment. There are many symptoms of the disease that also call for attention, such as headache, restlessness, convulsions, coma, and cardiac and respiratory failure. In other words, we cannot just throw penicillin, sulfonamides, or streptomycin into the patient and then forget about him. We must support the child by blood transfusions, plasma, saline, or by Hartman's solution to keep up his nutrition. We must counteract headache and be on guard every day and every hour of the day for complications.

In order to show the reduction in the mortality of meningitis during the past two decades, I have summarized my own cases as well as cases at different hospitals. The results follow:

1. Meningococcic meningitis, prior to the use of antimeningococcus serum, was ninety per cent fatal. Serum and antitoxin reduced the mortality from ninety per cent to forty-five per cent. Sulfa and penicillin reduced it further to fifteen per cent.

2. Influenzal meningitis was one hundred per cent fatal. Sulfa, penicillin, rabbit serum, and streptomycin reduced the mortality considerably. Our most recent figures

show a mortality down to twenty per cent.

3. Pneumococcic meningitis was one hundred per cent fatal. With sulfa and penicillin this mortality has been reduced to approximately thirty-eight per cent. (This is the average of a fifteen per cent mortality in our cases one year and a sixty-two per cent the following year.)

4. Tuberculous meningitis was one hundred per cent fatal. From present indications, streptomycin will bring about a marked reduction in the mortality rate. Just how much it will do, it is still a little too early to tell.

Meningitis is definitely a disease of childhood. It is a very severe disease, often accompanied with serious complications and frequently terminating fatally. We must utilize every possible means of making a diagnosis and every promising mode of treatment to effect a cure.

The progress made in the treatment of meningitis has resulted in a marked reduction in mortality. This achievement constitutes one of the most interesting chapters in the history of medicine, for it is the story of man's conquest over disease.

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## THE LIMITATIONS AND INDICATIONS OF SURGERY AND RADIATION THERAPY FOR CANCER OF THE BREAST

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According to ancient records written about 2000 B.C., cautery excision and caustic pastes were methods used for treatment of cancer of the breast. Concomitant involvement of axillary lymph nodes was recognized. Hippocrates contended in 300 B.C. that women with axillary involvement could not be cured. During centuries following, many surgical technics were described, but there is no available information about results. In 1894 Halstead<sup>1</sup> published his description of radical mastectomy. He also reviewed the literature of preceding years and reported that 16 per cent of patients operated upon had survived three years and 5 per cent for five. This probably represents what had been accomplished by surgery until about fifty years ago. It has been shown that the average natural duration of life expectancy of women with untreated cancer of the breast is approximately three years, and 5 per cent live five years. Therefore, it is reasonable to assume that very few women operated upon during many centuries preceding the twentieth were cured or lived longer than they might have without operation.

Results improved after general adoption of radical mastectomy. According to statistics the average survival rate now is about 30 per cent of patients operated upon. However, Hutchison<sup>2</sup> in 1939 analyzed statistics from all over the world and found that the average results after the first twenty years following adoption of radical mastectomy were not improved in the next twenty years. This seems to indicate that there are limitations to possible curability by operation. But 30 per cent survival rate does not represent the overall or general curability by operation because; First: The average is based upon reports made by experienced and skilled surgeons and probably typifies the highest attainments of operative procedure, but many women are operated upon under less favorable circum-

stances and the results are not reported; Second: Results reported are based upon selected cases, but there are many refused operations because of too advanced stages of disease; Third: Some patients who survived five years subsequently died of cancer.

It would be difficult to arrive at an estimate, but probably less than 20 per cent of all women with cancer of the breast have been cured by operation alone. However, if 30 per cent five-year survivals be regarded as the average obtained by operation alone, the medical profession should not be content to consider surgery a satisfactory or sole solution of this problem. Other methods should be sought and employed without prejudice as adjuncts to operation or for patients obviously surgically incurable, even though they offer only palliation and prolongation of life and economic usefulness.

It happened fortuitously that soon after the technic for radical mastectomy was described, roentgen rays and radium were discovered. The first use of roentgen rays for cancer of the breast was reported in 1901.<sup>3</sup> It was tried postoperatively with the hope of destroying remaining cancer tissue. Patients considered surgically incurable and with recurrences and metastases also were treated. Benefits were observed even with apparatus giving feeble intensities of radiation. Apparatus and methods improved, and by 1922 the so-called "deep" roentgen therapy had come into use. Laboratory investigations were undertaken and have explained biological and physical effects of the rays and provided methods for accurate measurements. The knowledge acquired has led to better results, and even greater improvements may be expected.

Although radiation therapy has proved to be of benefit in the treatment of malignant disease, still there is uncertainty about its indications for cancer of the breast. This is due principally to conflicting reports, from many of which erroneous and unjustifiable conclusions have been drawn. Sur-

\* Read before the Tennessee State Medical Association, Memphis, April 8-9-10, 1947.

geons and others have reported that radiation therapy for cancer of the breast has been of no benefit or has even been harmful because the survival rate was not increased and was sometimes lowered as compared with that after operation alone. It also is astonishing that in some reports purported to present results of operation alone, it is obvious from the text that some patients must have had radiation therapy, although this is not taken into consideration. For example, a well-known surgeon<sup>4</sup> wrote in part, "I believe that roentgen treatment is of benefit in selected cases but in certain others it is detrimental. . . . I have seen a number of cases . . . in which distant metastases occurred earlier than would be expected from the degree and extent of malignancy found at the time of operation."

A few factors which lead to such erroneous conclusions should be discussed briefly.

First, relative proportions of early and advanced cases in series used for comparison have not been taken into consideration. Undoubtedly, most surgeons do not advise radiation therapy unless they believe all cancer tissue cannot be or has not been removed and operation alone cannot cure. Comparisons of results of different therapeutic procedures can be made equitably only if similar types and proportions of cases regarding anatomic extent of involvement are analyzed.

Second, in some reports, results in patients given radiation therapy at any time after operation even for recurrences or metastases are compared with others having operation alone for primary cancers. Treatment of recurrences or metastases is an entirely different problem from technical and prognostic standpoints than is treatment of primary tumors, and there is no justification for comparing results of radiation therapy for these conditions with those of operation alone.

Third, roentgen rays or radium do not have power to produce spontaneously local recurrences or remote metastases. There is no proof that they stimulate neoplastic cells to grow or to become disseminated. On the contrary, there is abundant experimental and clinical proof that radiation destroys

or inhibits reproduction of neoplastic cells and that normal tissues after radiation resist their development. When recurrences or remote metastases develop after operation it is irrefutable proof that not all cancer tissue has been removed, therefore operation was unsuccessful as far as cure is concerned whether or not radiation therapy was given.

Fourth, if it be assumed that approximately 30 per cent of patients having operation alone survive five years, then fatal metastases must have developed in the other 70 per cent. Local recurrence or metastases may be manifest a few weeks or years after operation, and there is no possibility of predicting where or when. Neither is it possible in many cases to ascertain at operation or even after subsequent examination of tissues whether or not all cancer tissue has been removed. Therefore, those who contend that recurrence or metastases developed sooner than expected in patients given radiation therapy probably overestimate their prophetic acumen about a disease notoriously variable and unpredictable. They cannot substantiate by factual evidence the conclusion that the treatment was the cause of early metastases. However, it is true and should be expected that a high percentage of patients given radiation therapy develop recurrences or metastases, but this is in spite of treatment and because a large proportion were in advanced stages of disease.

The average 30 per cent survival rate of selected cases having operation alone indicates definite anatomic limitations to radical mastectomy. Willy-Meyer<sup>5</sup> published his description for radical mastectomy concurrently with Halstead. He wrote in part, "To extirpate the breast, the contents of the axilla and sub and infraclavicular regions and the pectoral muscles . . . let the knife never enter the infected (cancer) but work everywhere around the latter in healthy tissue." This description defines the anatomic limits of radical mastectomy. However, cancer does not recognize these limitations and extends beyond them in approximately 70 per cent of the patients operated upon. If surgeons cannot "work everywhere around" a cancer into "healthy



tissue" they leave and cut into malignant tissue and open vessels, thus encouraging dissemination of neoplastic cells from which recurrence or metastases will develop.

Another limitation to surgical procedures is human nature. Many women when they find tumors in their breasts fear cancer and dread the inevitable mutilation that results from operation, therefore delay being examined; others are so unobservant and ignorant about their anatomy that they do not discover tumors or present themselves for treatment until too late. There will always be women and physicians who will depreciate the possible dire significance of innocent-appearing tumors and will procrastinate. These factors also limit the possibility of curing some patients by either surgical or radiologic procedures. Only education of the laity and physicians to immediate treatment of breast tumors can increase curability.

The anatomic or physical limitations of radiation therapy are similar to those of surgery regarding the possibility of affecting malignant tissue beyond the areas treated. However, radiation can be given to tissues that are not accessible surgically, as, for example, the supraclavicular region where metastases develop frequently.

Radiation therapy also has biologic limitations due to inherent variations in responses or radiosensitivity of neoplastic cells in relation to intensities of radiation that can be administered without serious damage to normal structures. Cancers of the breast as a group are relatively radio-resistant; however, some neoplastic cells in all of them are sufficiently radiosensitive to be destroyed and reproduction of others inhibited so that lives may be prolonged. This applies not only to radiation therapy given postoperatively to delay growth or residual cancer but also for recurrences or metastases and when given to incurable primary tumors.

The discussion of reasons for uncertainty about benefits of radiation therapy for cancer of the breast and of its limitations and those of operation proves the necessity for studying the indications for these proce-

dures on an equitable basis. This can be done best by agreeing upon a classification of cases according to anatomic extent of involvement. One reason is because of conflicting reports about the results of radiation therapy previously discussed. Another reason is because different surgeons have reported from 15 to 52 per cent of five-year survivals following operation. This wide variation cannot be explained solely on the basis of differences in technics for radical mastectomy. It must be due principally to difference in the types of cases operated upon. Probably those reporting low survival rates operated upon more patients in advanced stages than did others having higher rates. Radiologists especially are interested in classifying cases according to extent of involvement so that their results can be compared equitably with those of surgeons. Some methods of classification may be discussed briefly.

Pathologists have made commendable efforts to classify cases of cancer of the breast by naming different types using descriptive adjectives applied to variation in histology. Also, they have tried to grade them according to variation in degrees of differentiation and undifferentiation as an index of malignancy. But in attempting to classify cases on the basis of histology we encounter differences in individual interpretation. Also, cancers of the breast are not homologous but heterologous in structure, many of them having several types of morphology and degrees of differentiation in several areas. Classifications based on histology may give information about malignant potentialities, probable rate of growth, or possibly about radiosensitivity but none whatever about anatomic extent of involvement, which is the most important factor governing curability. A difficulty that is encountered in basing prognosis on histology is that patients with cancers considered highly malignant will survive if the tumor is localized and can be eliminated, whereas others with low grade types will succumb because the tumor is too extensive. Neither can histologic criteria be relied upon to decide what therapeutic procedures are indicated for different types



not for statistical comparisons of results. Ewing<sup>6</sup> once said, "When it comes to predicting what will happen to a patient, certainly no pathologist or no clinician will ever say that histologic grading will give us the information that can be obtained from the clinical index."

Several methods of classification based on evidences of extent of involvement have been proposed. One suggested by Steintal<sup>7</sup> has been used generally in Europe and for reports in this country. There are certain objections. In Group I of this classification are cases having "slowly growing" tumors. It usually is difficult to determine rate of growth because tumors are present longer than patients realize and some are examined as soon as they discover the lesions, which may be small or extensive at the time. Reliable information about growth of tumors or their duration seldom can be obtained from patients. Also, there is considerable prognostic difference between cases having "minimum or no axillary involvement." Distinction should be made between cases with and without axillary extension. In addition, another group should be made to include cases having remote metastases at the time of examination or treatment.

Other classifications have taken into account age, size of tumors, and presence or absence of palpably enlarged axillary lymph nodes. Age is given consideration because cancers grow more rapidly in young than in elderly individuals. However, if a cancer of the breast in a young woman is so localized that it can be completely eliminated the prognosis is better than for an elderly person with more extensive involvement. The size of a tumor is not necessarily indicative of extent of involvement because small tumors may metastasize early and remotely and large ones quite late. The matter of presence or absence of involvement of axillary lymph nodes is difficult to determine clinically and in fact can be determined by palpation in only half of the cases in which the condition will be found after operation.

A classification in use for years is the division of cases into two groups, "oper-

able" and "inoperable." This method more than any other is responsible for disagreement about results because the terms are ambiguous, being subject to individual interpretation within wide ranges of variability. This was mentioned previously in connection with differences in results reported by surgeons. Anatomically and technically all cancers of the breast are operable. It is not difficult to remove a tumor of the breast or the whole organ. Although some doctors are more proficient in surgery than others, the question of operability may depend upon an individual's willingness to operate according to his own estimate of his skill, regardless of ability to remove all malignant tissue or benefit patients. Even competent surgeons disagree about the criteria of operability and inoperability and have different objectives in subjecting patients to operation. This may be illustrated by quotations.

An eminent surgeon wrote in part in 1941,<sup>8</sup> "Any lesion was considered operable if it was freely movable on the thoracic wall regardless of ulceration. In some cases even if there were cutaneous nodules proximal to the tumor regardless of the presence or absence of palpable axillary nodes. . . . The same view of operability was held in most cases in which supraclavicular nodes were palpable."

A quite different opinion was expressed in the same year by another eminent surgeon who wrote in part,<sup>9</sup> "There can be little doubt that all surgeons would consider a case to be inoperable . . . if the lymphatic glands in the upper axillary region are enlarged, hard, defined, or confluent and a similar state of things found in the supraclavicular region. On the other hand operability is hopefully anticipated when there is no axillary involvement detectable, or when only one enlarged node can be found in the lowest part of the axilla. Unfortunately, even in the latter circumstances, the operation itself often reveals that the axilla is heavily affected and the case is inoperable."

These surgeons and others have different criteria and objectives for operating and therefore different results. Apparently the

objective of some is to select cases only when there seems to be possibility of removing all cancer tissues. Others believe that removal of some malignant tissue is beneficial, regardless of the possibility of removing all of it. Concerning the latter objective a famous American surgeon with large experience in the treatment of cancer of the breast once wrote, "The widespread disrepute in which cancer surgery is held by the laity is due in large measure to a willingness on the part of many surgeons to accept hopelessly advanced cases for radical operation. . . . The indications for palliative operations are seldom met with . . . and in the absence of such, any operation the purpose of which is merely to remove as much malignant tissue as possible, or in cases where complete removal is clearly out of the question, should be strongly condemned. Operations of this type contribute nothing to the comfort of the patient nor prolongation of life, on the contrary, the end frequently is hastened by exciting the disease to more rapid growth."

The foregoing comments and quotations indicate the fallacy of classifying cases of cancer of the breast on the basis of the ambiguous terms "operable" and "inoperable." These terms should be discarded. It would be more logical to speak about "curable" and "incurable" cases; then there could be agreement about criteria of incurability. Curability and operability are not synonymous.

The remarks about methods that have been suggested for classifying cases of cancer of the breast were not intended to be disparagingly critical but to emphasize the fact that anatomic extent of involvement is the most important factor governing curability and the limitations and indications of different therapeutic procedures, also that extent of involvement should not be determined solely from histopathology or clinical findings alone. The most reliable method for classification for statistical comparisons of results and especially to determine the indications for different therapeutic procedures must be to take into consideration all information available from both clinical and pathologic evidences. A

classification based on such evidence was developed ten years ago when I analyzed our series of cases to compare the results of operations alone with those of radiation therapy.<sup>11</sup> The plan is as follows:

#### GROUP I.

Skin—not involved.

Tumor—localized in breast and movable.

Metastases—none in axillary lymph nodes or elsewhere.

#### GROUP II.

Skin—not involved.

Tumor—localized in breast and movable.

Metastases—few axillary lymph nodes involved, no metastases elsewhere.

#### GROUP III.

Skin—edematous, brawny red induration or inflammation not obviously due to infection, extensive ulceration, multiple secondary tumors.

Tumor—diffusely infiltrating breast, fixation of tumor or breast to chest wall, edema of breast, secondary tumors.

Metastases—many axillary lymph nodes involved or fixed, no clinical or roentgenological evidences of remote metastases.

#### GROUP IV.

Skin—as in any other group.

Tumor—as in any other group.

Metastases—axillary and supraclavicular lymph nodes extensively involved, clinical or roentgenological evidences of remote metastases.

When this classification was used it proved to be satisfactory for comparing results of different methods of treatment. Also, it was found that patients with certain clinical and pathologic manifestations of extensive involvement were not curable by any methods employed. These manifestations have been arranged in simplest form as the "Criteria of Incurability" as follows:

*Skin*

Edema (orange or pig skin) of more than slight extent.

Ulceration of more than slight extent.  
Brawny red and inflamed not obviously due to infection.  
Multiple secondary nodules.

#### Breast

Diffusely edematous.  
Diffusely infiltrated.  
Multiple secondary tumors.  
Fixation to chest wall.

#### Metastases

Axillary lymph nodes numerous, extensively involved or fixed.  
Supraclavicular lymph nodes involved or edema of arm.  
Involvement of contralateral breast or lymph nodes.  
Remote metastases in bones, lungs, or other viscera.

A brief statistical analysis of our series of cases at Cleveland Clinic will illustrate the applicability of this classification and the criteria of incurability and also the limitations and indications of surgery and radiation therapy.

Deep roentgen therapy was begun at our Clinic in July, 1922. Since then until July, 1939, there were 1196 consecutive cases of cancer of the breast registered. Table 1. Of these, 340 were unclassifiable, having had previous operation elsewhere. There were 230 that could be classified from clinical findings alone, including 69 given radiation therapy alone. The 626 operated

upon could be classified according to both clinical and pathologic findings, therefore a total of 856 were classifiable.

TABLE II

ALL CLASSIFIABLE CASES AND TREATMENT

	Total	NO. G I	NO. G II	% G I & II	NO. G III	NO. G IV	% G I II & IV
Op. Only	230	93	84	77.0	53	10	23.0
Preop. X.	22	1	4	22.7	13	4	77.3
Postop. X.	302	62	111	57.2	115	14	42.8
X-ray Only	69	0	0	0	24	45	100.0
Op. Treat. R.M.	72	8	23	43.0	37	4	57.0
Class. Cl. Path.	695	164	222	55.6	242	67	44.4
% in Each Group		23.6	32.0	55.6	34.8	9.6	44.4
No Treat. Justifiable	72	0	0	0	0	72	100.0
Op. Advised No Op.	89	48		50.5	41		49.5
Class. Clin.		48		30.0	113		70.0
Total Classifiable	856	434		49.5	422		50.5

Table 2. When the classifiable cases were grouped it was found that of those having operation alone, 77.0 per cent were in early Groups I and II and 42.8 per cent in Groups III and IV. Also, 100 per cent of those given radiation therapy alone were in late Groups III and IV, also that a higher proportion given radiation therapy at any time were in the advanced Groups III and IV. For example, of those having post-operative therapy, 57.2 per cent were in Groups III and IV. Taking into consideration all classifiable cases, 49.5 per cent were in early Groups I and II and 50.5 per cent in advanced Groups III and IV. The latter figure indicates that half of the classifiable cases were incurable at the time they were examined or operated upon. About 25 per cent of them had had bad advice from physicians who first saw them.

In determining the results of different methods of treatment all cases were classified and arranged in appropriate groups and tabulated to show those known to be alive in each yearly period up to the end of five years as follows: (1) Lost were those untraced; (2) dead not of cancer were those proved to have died of other causes; (3) dead of cancer of unknown causes; (4) alive with cancer; (5) alive without cancer, having no evidence of the disease. The lost or dead not of cancer were considered in each yearly period until lost or dead and then excluded from succeeding periods because some might have survived longer without cancer but others might have developed metastases had they been traced or

TABLE I  
CARCINOMA OF THE BREAST  
CLEVELAND CLINIC SERIES  
July, 1922, to July, 1939

I. Unclassifiable	
Previous operation elsewhere	340
II. Classifiable	
1. Clinical findings alone	
a. Op. advised, no record	69
b. Op. advised, performed elsewhere	20
c. Too advanced for treatment	72
d. Radiation therapy only	69
Total	230
2. Clinical and pathological findings	
a. Op. only	230
b. Op., treated for recur. or metast	72
c. Preop. radiation therapy	22
d. Postop. radiation therapy	302
Total	626
Total Cases	1196



lived longer. By deducting the lost and dead the total number known to be alive in each yearly period was determined by deducting the lost, dead not of cancer, and dead of cancer. The percentage known alive in each yearly period was calculated from the total number of cases.

TABLE III

RESULTS OF OPERATION ONLY  
Group I - 93 - 40.5% } 77.0%  
Group II - 84 - 36.5% }  
Group III - 53 - 23.0% } 23.0%  
Group IV -- 10 - 0.1% }

	Total	-1	2	3	4	5	5+
Lost	45	23	8	6	7	1	0
Dead Not Ca.	29	13	4	5	3	0	4
Dead Ca.	89	26	27	14	8	3	8
Alive $\bar{c}$ Ca.	4	0	0	0	0	0	4
Alive $\bar{s}$ Ca.	73	0	0	0	0	0	73
Total Cases	230	56	38	25	18	4	89
Known Alive	230	174	136	111	93	89	89
% Known Alive	230	75.6	59.1	48.2	40.4	38.7	38.7

This tabulation, Table 3, shows results in the series having operation only, of which 77 per cent were in Groups I and II and 23 per cent in Groups III and IV. There were 38.7 per cent known to be alive after five years. However, this figure does not truly represent the results of operation alone. There were 72 patients that had recurrences or metastases known to have been treated by radiation therapy subsequent to operation. If it be assumed that the lives of none were prolonged by treatment, then the survival rate was 34.1 per cent for operation alone.

Only 22 cases had preoperative radiation therapy, and 27.4 per cent were known alive five years. Of these, 80 per cent were in Groups III and IV. When the tissues removed were examined viable cancer cells were present in abundance, and there was no evidence that the treatment had diminished the anatomic extent of involvement or would alter the course of disease. In fact we regretted having operated upon these patients because it seemed that the lives of some were shortened and that they might have lived longer if they had not been operated upon but had been given radiation therapy alone.

Some of the cases given preoperative radiation had ulcerating lesions and were operated upon for aesthetic reasons before the treatment had had full effect.

This brings up the question of the advisability of paliative operations for aesthetic reasons. Most patients have tolerated the condition for several months, therefore it would seem unnecessary to hasten to relieve them of the inconvenience by immediate operation. The average duration of life in such cases after operation was only three months. It is doubtful that any were made more comfortable, and the lives of some seem to have been shortened. This bears out the previous quotation about the palliative operations. Every radiologist has seen ulcerations improve or heal following treatment. It would seem advisable to give radiation therapy alone, which at least will not shorten lives, and also to patients with criteria of incurability because radiation therapy will not make them surgically curable.

A comparison of results of operation alone and postoperative roentgen therapy was made according to groups. Table 4. Of cases in Group I without axillary involvement and having operation alone, 54.8 per cent were known alive five years, whereas 80.0 per cent having therapy survived. The percentage for those theoretically most curable having operation alone is lower because so many were lost or died of other causes than cancer. If it be assumed that radiation did not prolong the lives of any in this group, then 80 per cent

TABLE IV

RESULTS OF OPERATION AND ROENTGEN THERAPY FOR POSTOPERATIVE RESIDUAL OR METASTATIC CARCINOMA

Operation Only 230  
Residual Recurrence or Metastases 72  
Total 302

	Total	-12	12/24	24/36	36/48	48/60	60+
Lost	53	26	11	8	7	1	0
Dead Not Ca.	29	13	4	5	3	0	4
Dead Ca.	148	33	40	22	23	10	17
Alive $\bar{c}$ Ca.	8	0	0	0	0	0	8
Alive $\bar{s}$ Ca.	74	0	0	0	0	0	74
Total Cases	302	66	54	35	33	11	103
Known Alive	302	236	182	147	114	103	103
% Known Alive		78.1	50.2	48.2	37.7	34.1	34.1

having operation alone also should have survived. However, apparently 20 per cent of these cases having no axillary involvement died of cancer within five years. This seems to indicate that even in these early cases not all malignant tissue was removed. Extension may have taken place to other nodes than the axilla, or possibly axillary involvement escaped the careful scrutiny of the pathologist.

Of Group II cases having operation only, 43.3 per cent were known alive five years and 63.1 per cent of those that had postoperative radiation. The 43.3 per cent survival rate following operation alone indicates that cancer tissue remained in 56.7 per cent of these patients with minimum axillary involvement. It would seem logical to try to do something to delay the growth of the residual cancer in such cases, therefore radiation therapy is indicated.

Of Group III cases with one or more of the criteria of incurability having operation only, 49.5 per cent died in the first year, only 6 per cent lived three years, and 4.0 per cent for five. Of similar cases given postoperative radiation 29.5 per cent lived three years and 14.0 per cent for five. None of Group III cases were free of cancer at any time. This seems to indicate that the lives of these patients with criteria of incurability were not prolonged by operation but may have been shortened. Postoperative roentgen therapy apparently prolonged the lives of some.

TABLE V

## RESULTS OF POSTOPERATIVE ROENTGEN THERAPY

Group I - 62 - 20.5%		} 57.2%					
Group II - 111 - 36.7%							
Group III - 115 - 38.1%		} 42.8%					
Group IV - 14 - 4.7%							
	Total	-1	2	3	4	5	6
Lost	28	12	6	3	7	0	0
Dead Not Ca.	19	4	2	0	2	0	0
Dead Ca.	158	27	40	27	21	14	29
Alive & Ca.	7	0	0	0	0	0	7
Alive & Ca.	90	0	0	0	0	0	90
Total Cases	302	43	48	30	30	14	137
Known Alive	302	259	211	181	151	137	137
% Known Alive	302	85.9	70.0	60.0	50.0	45.3	45.3

Group IV cases had criteria of incurability including supraclavicular or remote metastases. Of those having operation alone

TABLE VI

## COMPARISON OF THE RESULTS OF OPERATION ONLY AND ROENTGEN THERAPY ONLY FOR GROUP III AND IV CASES

	Total	-1	2	3	4	5	5+
G III	0 53	49.5	17.0	6.0	4.0	4.0	4.0
	X 83	83.3	54.1	33.3	20.8	17.0	17.0
G IV	0 10	90.0	10.0	0	0	0	0
	X 45	33.3	6.6	2.2	2.2	2.2	0
G III & IV	0 63	43.0	14.3	4.8	2.4	2.4	0
	X 69	50.7	23.1	7.2	5.7	5.7	5.7

only 10 per cent were known alive after the first year, whereas of similar cases given radiation 14.3 per cent lived five years.

This comparison according to groups seems to indicate that the lives of some patients were prolonged by postoperative roentgen therapy. But if all cases are taken into consideration and unclassified according to extent of involvement, the proportion known alive five years following operation alone was 38.7 per cent and that having postoperative radiation 45.3 per cent. The difference in survival rate is not remarkable but illustrates the necessity of grouping cases of cancer in any location according to extent involvement when comparing results of operation and radiation therapy. If this is not done erroneous and unjustifiable conclusions will be drawn.

A comparison was made of results of operation only and roentgen therapy only for Group III cases. Table 5. These had criteria of incurability but no evidence of remote metastases. Of those having operation alone 17 per cent lived two years, but 17 per cent having roentgen therapy alone were known alive for five years. This seems to indicate that more patients with criteria of incurability will survive longer by radiation therapy alone than by operation.

There are some who believe that radiation therapy is not indicated immediately postoperatively and that treatment should be given only when recurrences or metastases appear. This seems illogical for two reasons: (1) We know that the average five-year survival rate following operation alone is approximately 30 per cent, there-

fore malignant tissue remained in the other 70 per cent because they died of cancer. (2) We contend that cancer should be attacked as soon as discovered. Therefore, if cancer tissue is known to remain in 70 per cent of cases following operation it should be attacked as soon as possible by radiation therapy, which is the only method available.

### CONCLUSIONS

1. It is axiomatic that anatomic extent of involvement from cancer is the most important factor governing curability or incurability.

2. Surgical and radiologic procedures have limitations and indications in the treatment of cancer of the breast which can be determined best by comparing results on the basis of series of cases classified according to extent of involvement. A classification has been proposed.

3. Approximately 50 per cent of women with cancer of the breast have been incurable at the time examined or treated. Criteria of incurability have been listed. Patients with them should not be operated upon because not all cancer tissue can be removed nor lives prolonged. They should be given radiation therapy alone to prolong life and economic usefulness.

4. Women with tumors of the breast and without criteria of incurability should be operated upon immediately. If cancer is found radical mastectomy is indicated. If the axilla is involved radiation therapy should be given at once to delay extension and prolong lives.

5. The treatment of cancer of the breast

necessitates close cooperation between physicians, surgeons, and radiologists.

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## DIABETES MELLITUS—A REVIEW OF PROGRESS\*

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In 1937, I reported before The Davidson County Medical Society on the prevention of diabetic emergencies. At that time those of us concerned with the care of diabetics had been impressed with a general lack of firmness in this regard. Practitioners in general had assumed that diabetics worked their destiny out with no need of any general education of them in the prophylaxis of the emergency situations, namely: acidosis, infection, and vascular occlusions. The necessity of proper regulation of the diabetic to prevent these complications, so much more easily prevented than cared for after their development, is now generally appreciated. Crusades such as this movement are part of the planned effort of the American Diabetes Association. There is no attempt to assume a pedantic attitude, but the members of this group have a genuine interest in improving the lot of the patients with diabetes. To do this entails the demand that all of us keep newer developments in mind and that we interpret them in the light of our knowledge of what has been accomplished in the past, and the pathological physiology involved. The facts are to be borne in mind that, although newer concepts are stimulating and to be encouraged, never-the-less there should be judicious caution in following fads. Finally, although general principles are necessary, no diabetic can be treated properly, if his individual characteristics are not adequately reckoned with.

The purpose of this paper is to bring before you some of the recent newer ideas of the physiological upset concerned in the causation of diabetes mellitus, and the more refined methods in the management of this disease.

More and more evidence accumulates to emphasize that although the functional defect in the metabolism of glucose in the diabetic is a lack of proper production of insulin, the glands of internal secretion and

the liver are intimately concerned with the proper utilization of carbohydrate. With the exception of the periods following the ingestion of food, the blood sugar level is the result of a balance between production of sugar by the liver and the utilization by the tissues. It has been generally believed that following the ingestion of glucose, the blood sugar level increased until the pancreas becomes able to produce and supply to the blood stream an additional amount of insulin and this was then followed by a fall in the blood sugar level to the normal or below normal level. However, Soskin<sup>1</sup> demonstrated that in the pancreatectomized dog, with insulin being injected at a constant rate, the glucose tolerance test is normal. Thus, no extra insulin production is possible and accordingly during the running of a glucose tolerance test, the pancreas is not the organ solely involved in influencing the level of the blood sugar. In the dog from whom the liver has been removed, the pancreas remaining undisturbed, when dextrose is injected at a constant rate, a marked diabetic glucose tolerance test is obtained. In a normal animal and with sugar determinations being done on the hepatic arterial and venous blood, a glucose tolerance test reveals a fall in the output of sugar from the liver and an increase in intake of sugar for the blood. Soskin likens this relationship of the liver to glucose metabolism as to a thermostat in the control of heat from a furnace. In the diabetic, the thermostat is set at a high level. The anterior pituitary function is in opposition to insulin and tends to turn the thermostat down. Normally the insulin-pituitary balance is such that a proper balance is maintained and the blood sugar level remains at the normal level of about 100 mgm. per cent. It was Houssay of Buenos Aires who demonstrated in 1930, that if the anterior pituitary was removed before the pancreas the animal did not develop experimental diabetes. A similar ameliorating influence was demonstrated by Lukens to follow adrenalectomy in the pancreatectomized cat. The adrenal cortex and the thyroid exert an influence on the

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blood sugar similar to the anterior pituitary.

The liver may be altered by disease, particularly fatty infiltration and abnormal glucose metabolism may follow the failure of proper glucose storage. In addition, the liver is now tagged as the producer of acidosis. No longer tenable is the thesis that fat burns in the flame of carbohydrate. It is now evident that the giving of large amounts of carbohydrate to an individual with or without an adequate insulin supply, results in the increased storage of glycogen in the liver. This may or may not be associated with hyperglycemia or glycosuria. If an adequate storage of glycogen results then the rate of production of fatty acids by the liver is not increased. If this glycogen storage is insufficient then the rate of fatty acid production increases. This increased production results in an amount of fatty acids which the muscles and tissues cannot utilize and consequently they pile up in the blood stream and ketosis results. Insulin by favoring glycogen storage in the liver, or glucose by accomplishing the same result, albeit to a lesser extent, decrease fatty acid production and the ketosis lessens and disappears. At all times there is a constant competition between the fatty acids of the liver and its stored glycogen for a single enzyme system. Glycogen usually gets the preference—when it fails fatty acids are metabolized in excess. Liver glycogen depletion occurs in hyperthyroidism, hyperpituitarism, hepatitis, infections, following vomiting, diarrhea and anaesthesia, all being clinical conditions commonly associated with the occurrence of acidosis.

Certain new theories relative to the explanation of the action of insulin have been advanced. Investigation<sup>15</sup> has shown that the anterior pituitary gland is capable of producing a substance which inhibits the action of the enzyme hexo-kinase. When present its excess in instances of hyperpituitarism the phosphorylation of glucose is retarded. Certain adrenocortical preparations prolong the inhibition of hexo-kinase. Insulin acts, possibly, by abolishing this inhibition of action of hexo-kinase. If this theory is correct it offers a lucid and

relatively simple explanation of the observed clinical results following the use of insulin and particularly the changes noted in the diabetic when complicating anterior pituitary or adrenocortical disease exists.

More recently the S-Hormone (sugar hormone) of the adrenal cortex is believed to direct the conversion of protein to glucose. Thus, Albright<sup>2</sup> feels that this S-Hormone causing an over-production of glucose is the explanation for the development of diabetes after moments of chronic stress, and is perhaps the explanation for the glycosuria noted following coronary thrombosis and after emotional upheavels.

It is well known clinically that the development of hyperthyroidism in a diabetic has a decided worsening effect on the diabetic state. In contrast to this the presence of hypothyroidism causes the diabetic state to become much milder. Two typical examples were reported in 1932.<sup>3</sup>

The factor of obesity is important. Allen<sup>4</sup> showed years ago that a partially pancreatectomized dog, showing no evidence of experimental diabetes could be thrown into the diabetic state as a result of over-feeding. Withdrawal of food resulted in a return to a "normal" state of carbohydrate utilization. More recently Newberg<sup>5</sup> reported a large group of obese individuals who had glycosuria and diabetic types of glucose tolerance tests. These individuals were freed of all laboratory evidences of diabetes after their weight had been reduced to normal levels.

More and more confirmation is being brought forth of the concept of White, Joslin, and Pincus<sup>6</sup> regarding the etiology of diabetes. By means of an extensive survey of the relatives of their diabetic patients, the Boston group were able to show that diabetes is transmitted as the recessive character according to Mendelian laws of inheritance. Thus, if two diabetics should marry, all of their children should develop diabetes if they live for a sufficient period of time. If a diabetic should marry a carrier of diabetes; i. e. an individual of a diabetic parent but without the disease himself, fifty per cent of their children would eventually become diabetic; and if two carriers should marry, twenty-five per cent



of their off-spring would be liable to this disease. It is a common experience to follow a diabetic child for years before the disease becomes evident in one or both of the parents.

In order to study the problem clinically it is necessary to have a laboratory animal in a condition comparable to the human diabetic. The preparation of this animal may be accomplished by: (1) total pancreatectomy, (2) subtotal pancreatectomy followed by over-feeding of the animal, (3) by the injection of large amounts of anterior pituitary extracts and more recently by, (4) the use of alloxan. The first two methods have been employed for years. The influence of pituitary extracts was first demonstrated by Young<sup>7</sup> in 1937. Alloxan, produced by the oxidation of uric acid, has among its other effects, a selective necrotizing influence on the Beta cells of the pancreatic islets. This work was begun in 1937 by Jacobs<sup>8</sup> and elaborated on by several other groups of investigators since 1943<sup>9</sup>. All now generally agree that a single appropriate dose of alloxan results in a permanent destruction of the Beta cells without the vacuolization or fibrosis which follows the use of anterior pituitary extracts. This is to date, the best method of producing experimental diabetes, since the pituitary extract method is not applicable to all species, is influenced by diet, and the extract must be injected over a period of several days, before its effect is established.

There is no evidence in the human that alloxan plays any roll whatsoever in the causation of diabetes. It may have a therapeutic place in the treatment of hyperinsulinism due to pancreatic islet-cell tumor. There is no doubt that as a relatively easy method of producing experimental diabetes it will greatly facilitate the laboratory study of this disease.

Until recently it had been generally agreed that there is no characteristic pathological picture of diabetes. Now the picture in the kidney of inter-capillary glomerulosclerosis is regarded as fairly characteristic pathological evidence of diabetes. The lesion may or may not be associated with the clinical picture of Kimmelstiel-Wilson Syn-

drome, now generally not believed to be representative of a specific nephrotic syndrome of the diabetic.

One of the most pressing problems is the proper understanding of the relationship of diabetes to the development of arteriosclerosis. It is definitely true that the development of arteriosclerosis proceeds much faster in the diabetic as compared to the non-diabetic. It becomes clinically evident in the vessels of the lower extremities with the occurrence of intermittent claudication and arteriosclerotic gangrene; in the coronary vessels with an unusual frequency of coronary thrombosis; in the cerebral vessels with frequent cerebral vascular accidents; and in the retina in the occurrence of hemorrhage and exudate unfortunately commonly situated in the all important macula area. Naturally it would be desirable to prevent this acceleration of development of arteriosclerosis. As yet the evidence is inconclusive that the proper regulation of the diabetic state will lessen the degree of arteriosclerosis. This fact is indeed not a very cheerful point for contemplation.

The management of diabetes from the dietary standpoint now finds general agreement in favoring a fairly high carbohydrate allotment. This is indeed a far cry from the low carbohydrate diets formerly employed. The Naunyn era incorporated a moderate protein intake with a high fat and a low carbohydrate fraction. This was followed by the Banting and Allen reduction diets, which were high in protein, low in fat and very low (10-20 grams) in carbohydrate intake. This practice of starvation induced recovery of insulin tolerance. This soon gave way to the Van Noorden modification which allowed a slight increase in the carbohydrate allotment to 50-60 grams. Later Petrou, Newberg and Marsh introduced a very high fat, low protein, low carbohydrate diet. Soon Falta introduced the fruit and cereal days of a high carbohydrate, high fat, low protein routine. Wood-yatt later followed this plan with some modification in the carbohydrate intake and finally during the past twenty years Geyelin, Sansum, Porges, Adelsburg, Rabino-witch and others have convinced all of the



desirability of the higher carbohydrate intake. The diets are better tolerated, they are more easily followed, and the efficiency of insulin is greatly enhanced. A word of caution about the wider limits in this liberal diet regime. I recall seeing in 1931 some patients treated by Rabinowitch. They had to take jam and force the intake of bread to meet his carbohydrate allotment. Obviously this was not a very desirable procedure. Also unacceptable are the ideas of Tolstoi<sup>10</sup>, who is lax in restricting diet and who permits his patients to show sugar in the urine to any degree with the only definite restriction being that they be kept out of acidosis. I have heard discussion on this by Joslin, Root, Mosenthal, Wilder and others. They universally agree that this is a highly undesirable practice and discourage it. Wilder emphasizes the promptness of the development of a negative protein balance in patients treated in such a manner. There are other groups who feel certain that laxity in management, particularly in children, is apt to be followed by degenerative changes in the retina and lens with the appearance of hemorrhage, exudate and the development of cataract. In addition, it is to be remembered that hyperglycemia *per se* may be harmful. Lukens induced hyperglycemia in the normal cat and produced definite evidence of damage to the Beta Cells of the pancreatic islets.

The twenty-fifth anniversary of the production of insulin finds great improvements in the methods of use of this very important agent.

The romantic background of the research for insulin should be recounted briefly. The late Sir Frederic Banting returning with the Canadian Army at the close of World War I, entered into practice with the intent of doing orthopedic surgery. During the usual lull following entrance into practice, he reflected on his earlier years at the University of Toronto Medical School. There he had had an interest in the problem of the diabetic. He had remembered the work of Minkowski and Von Mering, who in 1889 had demonstrated that the ligation of the duct of Wirsung resulted in an atrophy of the body of the pancreas, but the islet cells

remained normal and the animal did not develop experimental diabetes. Banting felt that by obtaining the correct method of chemical extraction he might prepare an extract of the islets of Langerhans with which the diabetic could be properly treated. Consumed with his inspiration, he obtained laboratory space in Professor MacLeod's physiology laboratory and went to work. For help he enlisted the aid of a medical student, Charles Best. With limited funds and space, and with meager equipment the laborious work began. Finally the extract was prepared and the long cherished hope was realized in 1921, when the material produced hypoglycemia in a depancreatized dog. In January 1922 some of the material was released for clinical trial and its value was quickly demonstrated. The extract was refined, produced on a large commercial scale and was quickly available throughout the world. For this monumental work, Banting and Best were awarded the Nobel Prize, and in 1923 Banting was knighted by King George V. Regrettable it is that Banting was killed while on a scientific war mission when his plane crashed while taking off from Canada for England in 1941.

Although insulin saved lives and improved tremendously the health of severe diabetics, it was not the final answer. Its action was too brief, for it began 20-40 minutes after injection, reached its peak in one to two hours and its duration of action was exhausted in two to four hours. Various means of prolonging its effect were attempted. Finally Hagedorn<sup>11</sup> of Copenhagen demonstrated in 1935, that the combination of insulin with a protamine, obtained from the sperm of a particular species of trout, resulted in a mixture which had its point of greatest insolubility at the P-H of the body. This combination of insulin and protamine was therefore precipitated in the tissues and insulin was released slowly and its action was therefore gradual and prolonged. This was a great improvement, but the combination was stable for a few days only and therefore impractical for commercial distribution and general use. The late R. C. Derivaux

and I were given some of this material and used it on a few selected patients with impressive results. Quickly even more improvements were added. Scott, another Canadian, added zinc to the mixture and prepared a mixture of protamine-zinc-insulin which was stable, had a prolonged action and could be prepared for inexpensive commercial distribution. This combination was placed in general use in 1938. Soon definite objections were noted. This combination acted so slowly that it was of little value in the treatment of emergencies and would not take care of the morning meal. After it had been injected this insulin combination continued to act and a patient had to have the three planned meals even if illness or environment tended to make this difficult. Finally there were certain reactions to protamine-zinc-insulin, that made the resultant hypoglycemia tricky and hazardous, inasmuch as symptoms did not occur until the blood sugar had reached a dangerously low level. Accordingly great care had to be exercised; soon diets had to be distributed to accommodate the insulin; later regular insulin was used in addition by separate injection. In 1941 Peck<sup>12</sup> and others began to mix in the same syringe, just before administration, portions of both protamine-zinc-insulin and regular insulin or solutions of zinc-insulin crystals. This combination or mixture of insulin was suggested originally by Hagedorn, who pointed out that protamine was present in excess and could combine more ordinary insulin than he had incorporated in his original protamine-zinc-insulin mixture. This combination of the two insulins has resulted in the greatest beneficial refinement in the use of insulin since the discovery of this agent. It is amazing to see the smoothness of regulation which follows; reactions disappear, the patient feels much better, the urine is cleared of sugar and the blood sugars become more stabilized at nearly normal levels. This method is a truly remarkable improvement in the management of the diabetic.

I need not add that the isolation of insulin crystals by Abel, Geiling and Roniller in 1925 was of the greatest importance

and the production of a solution of zinc-insulin crystals by Sayhum of Detroit in 1935 was an important part of the foundation for the study and production and use of the various modifications of ordinary insulin.

Globin-insulin has not proved to be of any material assistance in the care of the average diabetic, although, recent reports<sup>13</sup> seem more encouraging in this regard.

Care must be exercised to avoid the occurrence of hypoglycemia. The classical symptoms of hypoglycemia following the injection of unmodified insulin are fairly well known. They occur usually 1-2 hours after the injection of the insulin, are associated with a rapid decrease in the level of the blood sugar and the symptomatology is: nervousness, sweating, excitement, tremors, hunger and if uncontrolled, the development of convulsions and coma. These symptoms begin when the blood sugar falls below a level of about seventy and the reaction is severe when the level is near fifty milligrams per cent. In contrast to this the symptomatology of the hypoglycemia following protamine-zinc-insulin is different. The reaction usually occurs late at night or early in the morning before breakfast. The blood sugar level falls slowly, the symptomatology is more apt to be that of weakness, headaches, nausea, and depression and when the blood sugar is obtained the level is usually near forty or fifty milligrams per cent, the level where convulsions are apt to occur if the blood sugar had been reduced following the administration of unmodified insulin. Accordingly the hypoglycemia following protamine-zinc-insulin is more treacherous in its appearance and inasmuch as the action of protamine is prolonged, the treatment by administration of glucose must be repeated at intervals in contrast to the response to a single effective injection of glucose following a reaction to unmodified insulin.

Himwich<sup>14</sup> has pointed out the sequence of the symptomatology of hypoglycemia and has related the phases to the different levels of the brain and brain stem involved. The symptomatology is based on the fact that of all the tissues of the body, the nervous sys-

tem is the only structure which has no substitute for glucose in its metabolism. Normally the brain removes only 6.8 volumes per cent of oxygen for each 100 cc. of blood. During an insulin reaction this falls to 2.57 volumes per cent and with a continued low level of blood sugar, the utilization falls to 1.77 volume per cent. The oxygen utilization rises rapidly in association with gain in consciousness. During hypoglycemia the first level lost is in the cerebral cortex and cerebellum and is manifest by somnolence, sweating, salivation, tremors, excitement and confusion; the next level lost is the sub-cortical and is manifest by coma and twitchings; then the thalamus with increased reactivity to stimulation; next the hypothalamus with evidences of sympathetic nervous system stimulation manifest by dilated pupils, tachycardia and flushing; next the mid-brain with diminished reaction to stimulation, resulting in tonic spasm and a positive Babinski sign; and finally involvement of the medulla oblongata, with evidences of increased para-sympathetic activity; pin point pupils, which do not react to light, a slow heartbeat, depression of respiration, relaxation of muscles and the loss of the corneal reflex. The practical point is that although glucose will usually cause a complete cure, it must be given before evidence of medulla oblongata depression is noted, as indicated by the loss of the corneal reflex. When this is seen the chance of a complete cure is none too good, and intravenous barbiturate should be given as well as glucose. The barbiturate will prevent the violent muscular contractions which aggravate the degree of anoxia, already depressed to a critical level.

Simple matters of good hygiene in the care of the skin, especially of the feet, need only to be mentioned. All recognize that whether we are thinking in terms of recent progress in the management of this disease or in past good principles of treatment, the

prevention of infection or gangrene by such procedures is axiomatic.

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# THE JOURNAL

OF THE

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W. M. HARDY, M.D., Editor and Secretary

JULY, 1947

## EDITORIAL

### THE HEALING ARTS

The recent legislature passed a law to regulate the practice of the healing arts. Several columns explaining the law have appeared in the JOURNAL. A number of inquiries have been received in the offices asking for information on various points.

We desire now to call your attention to two items. First, registration blanks have been sent to all known practitioners of medicine. In the same envelope a copy of the law and the interpretations of the law by the Board were enclosed. If you have not received your letter, you should ask for the registration blank and instructions.

If you have a friend licensed to practice in Tennessee but living in some other state, you should write your friend and tell him to register so that he will not forfeit his license. He can be placed on the inactive list and keep the license for possible future use if he wants to come back to the state.

To obtain full information about any provision of the law, send your letter to R. H. Hutcheson, M.D., Secretary, Board of the Healing Arts, Tennessee Department of Public Health, Nashville.

Second, in this issue of the JOURNAL the advertisements of all Tennessee hospitals appear without naming anyone subject to the provisions of the Healing Arts Act. The Board has ruled "that any paid advertisements in papers, journals, etc., would

be considered advertising under the terms of Section 11 of the Act."

### NATIONAL HEALTH BILL

On June 25 and 26 committee hearings were continued on S. 545, National Health Bill. We reproduce a report of these hearings, as we believe the report will be interesting. It also shows to what extent some of these witnesses go to secure the opinion of the group whose views are expressed.

Read the report and note carefully the testimony of Dr. James Shields of the Montana State Medical Association. After a careful study of the bill by physicians all over the state and a day of discussion of the whole bill, Dr. Shields was able to express the opinion of those he represented.

Contrast this method with the much easier way of Miss Elizabeth S. Magee, General Secretary of the National Consumers League. The efficient Miss Magee presented a resolution framed by two members of her organization.

And then a Kentucky miner representative went all the way to Washington to tell a committee of Congress the trouble a local union had in employing a doctor.

Also note the all-inclusive names under which small groups work, e.g., The Physicians Forum, Inc., with about a thousand members, of whom a majority live in New York City, and a very few members west of the Mississippi, but it is a "national" organization worthy of consideration when political medicine is being advocated.

### SPECIAL BULLETIN No. 9

#### CONTINUED HEARINGS ON S. 545, NATIONAL HEALTH BILL

Wednesday, June 25

*The Physicians Forum, Inc.*, represented by Doctor Ernest P. Boas, opposed the measure introduced by Senator Taft (S. 545) because, he said, it was based on "the charity concepts."

His testimony closely followed the statement he made last year favoring S. 1606. Responding to questions, he admitted that the Physicians Forum had only about a thousand members, and the majority of these live in New York City. Although claiming to be national, practically none of its members live west of the Mississippi.

*The Insurance Economics Society of America* was represented by John R. Mannix, President of the John Marshall Insurance Company of Chicago. He told the Committee that much publicity has been

given to the effect that the insurance industry does not favor S. 545. The exact opposite is the case. There is overwhelming insurance support to this proposal.

S. 545 proposes a rational approach to the extent of actual need for tax-supported programs to improve and extend health services and how much we can afford before entering into a permanent contract for its purchase. The measure would finance a period of investigation and experimentation as a basis for a permanent program.

One of the important virtues of this measure is that it is constructive without being radical. It proposes that the government give help where help is needed.

Insurance men look with favor on the provision which would permit and encourage private participation in the program to meet health problems of the poor. He suggested that state aid could be given commercial companies as well as nonprofit organizations.

"On the whole, Senate Bill S. 545, is worthy in purpose, well considered in approach, and wholly in harmony with the constructive purpose and methods of American democracy."

*Doctor Maurice H. Friedman*, a physician engaged in private practice of Internal Medicine in the District of Columbia, refuted by his carefully planned and analyzed statements much of the data which have figured so prominently in the discussion of National Health Insurance. He produced data on prevalence of sickness according to economic status which have not heretofore been brought to the attention of the Committee.

For example, it is repeatedly said that forty per cent of the population have inadequate medical care, but Falk et al. reported, "In the twelve months of observation by the Committee on Costs of Medical care, forty-seven per cent of the people surveyed reported that they had had no illness." Citing the same report, he said that the data "show that the number of illnesses for each individual is lowest in the low income group and rises as the incomes increase to \$10,000 or more."

Doctor Friedman pointed out that several factors are involved in a report of this kind. Those of low income may not report minor illnesses. There are likely to be more old people in the higher income brackets. He also very effectively analyzed the figures submitted by the Selective Service Board. This paper should be published.

*Thursday, June 26*

*Doctor James C. Shields*, in behalf of the *Montana State Medical Association* and the *Montana Physicians' Service*, described S. 545 as "constructive legislation." He stated that it presented a sane approach to the problem of sickness and health. Aid is given to those in need without making them wards of the state. He stated that in order to get the sentiment of the doctors of his state, the President had invited representatives from every section to a full day's study of the bill, and his statement

is a report of their findings. He suggested several amendments in the technical construction of the bill and concluded by saying: "The doctors of Montana believe that nonprofit, voluntary health and hospital service plans will give the American people better medical and hospital care than can be furnished by any government managed compulsory plan. This would be particularly true should this bill be enacted, granting states the right to assist and subsidize, in whole or in part, for the care of those who cannot afford to do so."

Representing the *State and Territorial Health Officers' Association*, there appeared *Doctor V. A. Getting*, who supported the principles of S. 545 as meeting some of the needs of the people for more adequate public health and medical service. However, certain changes were recommended in the administration of the proposed National Health Agency, such as:

- a. Preservation of U. S. Public Health Service as the nucleus about which to develop the new agency.
- b. Expansion of public health services so as to reduce illness to a minimum.
- c. Broaden the States' authority in order to make a single, inclusive medical care program with the advice from the public and the professions rendering medical services.
- d. Inclusion of provision for adoption of standards on federal level.

*The Ohio State Grange*, represented by *Joseph W. Fichter*, its Master, and *Lloyd C. Halvorson*, Economist, expressed the interest of the National Grange in any measure designed to improve the rural health situation which they pictured from statistics collected in Ohio as being very inferior to that of the cities.

Mr. Fichter stated that the Grange has taken no action on compulsory health insurance. It looks with favor on prepayment plans, but especially favors cooperative plans such as the one operating in Elk City, Oklahoma. In his opinion, the Grange would approve of compulsion only as a last resort.

Mr. Halvorson objected to the creation of a separate health agency and is definitely opposed to the requirement that the Administrator should be a physician. He is opposed to the constituency of the National Medical Care Council. "We feel that at least four out of the eight appointed members should represent the consumers of medical services and should be familiar with the needs for medical and hospital care in urban and rural areas."

*Miss Elizabeth S. Magee*, *General Secretary of the National Consumers League*, registered the support of the League to compulsory health insurance (S. 1320). She stated that the proposals in S. 545 do not apply to a majority of the citizens in the low income bracket. Those who would benefit by S. 545 must be proven by a means test, she regretted.

Under questioning by Senator Donnell, Miss Magee admitted that the majority of the membership of her organization resides in the states along the



Atlantic Coast, and that the Committee which framed the resolutions she presented consisted of but two persons.

*Edward H. Weyler, Secretary-Treasurer of the Kentucky State Federation of Labor*, appeared in opposition to S. 545 for reasons some of which are:

- (1) The allocation of funds is unsatisfactory.
- (2) The means test.
- (3) Opposes the aid to voluntary insurance plans.

He expressed approval of S. 1320. He submitted two complaints of the medical service in his part of Kentucky, one purporting a description of medical neglect and the other of difficulties encountered with medical organization by the local coal miners' union in its efforts to employ a physician.

*Friday, June 27*

*The New York State Federation of Labor*, represented by *Mr. William Galvin*, stated that after careful consideration the group took the position that S. 1320 is a progressive and effective step in the direction of improved management-labor relationships. On the other hand, S. 545 is a hasty stopgap measure calling for large appropriations and failing to grasp and deal with the basic national health problem.

*Patrick Tompkins, Chairman of the Committee on Medical Care, American Public Welfare Association*, took the position that providing medical care is primarily a social welfare activity. Most states already provide some medical care for the needy through welfare departments. Therefore, he foresees that if the Administrator is a physician confusion in the roles of the Administrator and Practitioner will arise. Other objections he raised are: "The bill itself sets no standards and specifically prohibits the Federal Director from doing so. This is virtually unprecedented in federal grant-in-aid programs. It makes no provision for merit system standards of personnel. It permits public funds to be turned over to nongovernmental agencies for expenditure with no controls either as to standards of service or accountability of funds." He feels that in the organization of the Advisory Council the interest of the public has been neglected. He also objected to the manner in which the funds are to be allocated. He expressed a preference for Senate Bill 712, which would elevate the Federal Security Agency to cabinet level.

*Edward J. Slater*, representing the *Essex Trades Council, Newark, New Jersey*, urged the Committee to report out S. 1320. "As a trade unionist, I believe it is perfectly legitimate for doctors to be concerned that they receive adequate pay for the services they perform, but I say frankly that I think that these doctors are moving outside their field when they attempt to dictate the manner in which patients shall pay their bills and the manner in which tax funds collected from all the people

shall be used to meet the bills of doctors who provide care to those who cannot afford it."

In answer to his own question, "What kind of program do we want?" he replied that workers should pay for doctor's care in proportion to their earnings, and employers should pay part of the bill. But he does not like the "charity way" of providing medical care for the low-income group.

His closing paragraph, "Because we feel it is the people's business, we urge your Committee to report out the National Health Insurance Bill (S. 1320), and because we are trade unionists, we ask that the doctors be given every opportunity, under a national health insurance program, to secure the just compensation that should be their due for the service they now render and will render in the future."

*Doctor Reginald M. Atwater, Executive Secretary of the American Public Health Association*, characterized S. 545 as being an inadequate national health program and submitted the Association's opinion as expressed in an official statement of the Association policy, "Medical Care in a National Health Program," which was adopted at the 1944 Annual Meeting. His Association prefers the conversion of the Federal Security Agency into a department with Cabinet rank, he asserted. An objection was expressed to the employment of the means test and also to "insufficient representation of the public in the Council." He deplores the fact that no provision is made "for Federal or State standards in regard to methods of administration or quality of care." He was extensively questioned as to the manner in which the Association framed and adopted its health policy. He stated that it originated with a subcommittee of a subcommittee, consisting of five members and a visitor, four of whom were Federal Government employees who were known to favor a government health program.

*Doctor Theodore Sanders, New York City*, spoke at the request of the *National Federation of Settlements* and the *National Association of Consumers*. Speaking personally, his principal objection was to the employment of the means test. He stated that he preferred to see the bill rejected since its passage might create such a false impression that something positive is being done about the health problem. While the bill provides many necessary services, it does not meet the nation's need for good prepaid medical care.

## DEATHS

HUBERT KING TURLEY, SR., M.D.

Hubert King Turley, Sr., M.D., Memphis; Jefferson Medical College, Philadelphia, 1914; aged fifty-six; died June 20, 1947, of a cerebral hemorrhage as he performed an operation.



## NEWS NOTES AND COMMENTS

### RADIO PROGRAMS

Seven radio stations in Tennessee affiliated with the Mutual Broadcasting Company are carrying the nation-wide A. M. A. Radio Program, "Stephen Graham, Family Doctor." Two other Mutual stations replying to our communication could not carry the program since they operate in daytime only.

The network program goes on the air each Monday at 9:30 P.M., CST, over the Mutual System. It is produced in Chicago under the direction of Dr. W. W. Bauer, Director, Bureau of Health Education. Stations carrying the program are:

WHBQ—Memphis  
WDSG—Dyersburg  
WKRm—Columbia  
WJZM—Clarksville  
WHAL—Shelbyville  
WGNS—Murfreesboro  
WAGC—Chattanooga

In addition to the network series, several stations are carrying other broadcasts arranged for by the Tennessee State Medical Association and sponsored by the local medical societies. These are as follows:

WDSG, Dyersburg—Dyer-Lake-Crockett Medical Society  
WTJS, Jackson—Consolidated Medical Society of West Tennessee  
WSM, Nashville—Nashville Academy of Medicine and the Davidson County Medical Society  
WHUB, Cookeville—Upper Cumberland Medical Society  
WGNS, Murfreesboro—Rutherford County Medical Society  
WMMT, McMinnville—White-Warren-Van Buren Medical Society

(See your local paper for broadcast time on your local station.)

### POSTGRADUATE COURSE IN INFECTIOUS DISEASES

The Emory University School of Medicine announces a postgraduate course in infectious diseases to be conducted in cooperation with the Georgia Department of Public Health. It will be held September

18, 19 at the Grady Hospital, Atlanta, Georgia.

This course is planned specifically for the public health physician and general practitioner. It is intended to be a practical and comprehensive study of the latest methods of clinical and laboratory diagnosis and treatment of communicable diseases, including venereal infections.

#### *Tentative Program*

Penicillin and Streptomycin Therapy: Indications, Dosage, Pharmacologic Action, Bacterial Resistance  
Poliomyelitis: Transmission, Diagnosis, Management  
Tuberculosis: Use of Streptomycin, B. C. G. Vaccination, Detection by Photofluorography  
Rickettsial Diseases: New Methods of Treatment, Diagnosis, and Epidemiology  
Syphilis: Diagnosis, Serologic Interpretation, False Positive Reactions, Penicillin Therapy  
Gonorrhea: Management and Complications  
Respiratory Infections: Etiology, Differentiation, and Treatment of Colds, Influenza, Pneumonias  
Streptococcal Infections: Relation to Nephritis and Rheumatic Fever, Scarlet Fever  
Helminthic Infections: Diagnosis and Treatment  
Value and Methods of Immunization for Diphtheria, Measles, Tetanus, Pertussis, and Rabies  
Food Poisoning and Dysentery: Diagnosis and Treatment  
Practical Demonstrations of Laboratory Technics and Procedures Useful in Private Practice

For more information and registration blank, write Dr. R. H. Oppenheimer, Grady Memorial Hospital, Atlanta 3, Georgia.

#### CHANGE OF ADDRESS

Dr. Milton Tharp, Bennie-Dillon Building, Nashville, to 700 Harrison Street, Topeka, Kansas.

◆

Dr. Kenneth L. Haile, Gallatin Road, Nashville, to Cookeville, Tennessee.

Dr. Kenneth H. Prescott, Mountain Home, Tennessee, to 1224 South Paxton, Sioux City 20, Iowa.

Dr. John L. Clay, Morristown, to Moorehead, Kentucky.

Dr. H. S. Titshaw, Jackson, to 2000 Peachtree, Gainesville, Georgia.

Dr. H. L. Gilliland, 410 Merchants National Bank Building, Mobile, Alabama, to Mercer, Tennessee.

Dr. Alvin B. Rosenbloom, Jackson, to Wayne County Hospital, Eloise, Michigan.

Dr. Cecil E. Ward, 188 South Bellevue, to 504 Medical Arts Building, Memphis.

Dr. W. R. Irish, South Pittsburg, to 209 Marshall Road, Route 5, Chattanooga.

M. Lou Hefley, M.D., announces that David F. Hoey, M.D., is associated with her in the practice of Obstetrics, Suite 3, Medical Arts Building, Knoxville, Tennessee.

The Commonwealth Fund announces the retirement on September 1, 1947, of Barry C. Smith, LL.D., and the appointment as General Director of Donal Sheehan, M.D., Sc.D., Professor of Anatomy and lately Acting Dean of the College of Medicine of New York University.

Herbert Duncan, M.D., announces removal of his office from the Jackson Building to 628 Bennie-Dillon Building, Nashville. Practice limited to Eye, Ear, Nose, and Throat.

William Henry Ries, M.D., announces the opening of his office for the practice of Psychiatry at 2419 West End Avenue, Nashville.

Mr. H. L. Williams of Birmingham has joined the headquarters staff of the Southern Medical Association as Assistant to the Secretary Manager, Mr. C. P. Loranz.

After completing his residency at Protestant Hospital, Nashville, Michael A. Petrone, M.D., has opened his office in the Bennie-Dillon Building, to engage in the practice of Medicine and Surgery.

The Fourth Annual Meeting of the Mississippi Valley Medical Editors' Association will be held at the Hotel Burlington, Burlington, Iowa, the evening of Wednesday, October 1, during the meeting of the Mississippi Valley Medical Society in that city. A number of well-known medical editors will speak. A discussion period will follow each paper. Since the Mississippi Valley Medical Society will hold no meeting that evening, a large attendance is anticipated. All interested in medical writing are cordially invited to attend. There will be NO registration fee. A detailed program may be secured from the Secretary, Harold Swanberg, M.D., 209-224 W. C. U. Building, Quincy, Illinois.

Steven O. Schwartz, M.S., M.D., and Berthe E. Armstrong, B.S., M.D., of the Hektoen Institute for Medical Research of the Cook County Hospital, Chicago, are the winners of the 1947 Mississippi Valley Medical Society Essay Contest "for the best unpublished essay on a subject of practical and applicable value to the general practitioner of medicine." Drs. Schwartz and Armstrong wrote on "Treatment of Iron Deficiency (Hypochromic Anemia)." They will receive a cash award, a gold medal, and a certificate of award, and will present their essay at the Twelfth Annual Meeting of the Mississippi Valley Medical Society to be held in Burlington, Iowa, October 1, 2, 3. Their paper will appear in the January, 1948, issue of the Society's official publication, the *Mississippi Valley Medical Journal*.

## SECRETARY'S LETTER

American Medical Association  
Chicago 20, Illinois

June 23, 1947.

Dear Doctor:

The new officers of the American Medical Association, elected at Atlantic City for 1947-48 are:

Dr. Roscoe L. Sensenich, South Bend, Indiana, President-Elect

Dr. Thomas A. McGoldrick, Brooklyn, N. Y., Vice-President

Dr. George F. Lull, Chicago, re-elected Secretary and General Manager

Dr. Josiah J. Moore, Chicago, re-elected Treasurer

Dr. R. W. Fouts, Omaha, Nebraska, re-elected Speaker of the House

Dr. Francis F. Borzell, Philadelphia, Vice-Speaker of the House

Dr. Dwight H. Murray, Napa, California, re-elected to a five-year term on Board of Trustees

Dr. Edward J. McCormick, Toledo, Ohio, elected to serve a five-year term on Board of Trustees

Also:

Dr. Lloyd Noland, Fairfield, Alabama, re-elected as a member of the Judicial Council

Dr. John H. Musser, New Orleans, re-elected as a member of the Council on Medical Education and Hospitals

Dr. William Middleton, Madison, Wisconsin, elected member of the Council on Medical Education and Hospitals

Drs. Stanley P. Reimann, Philadelphia, and L. B. Jackson, San Antonio, elected to the Council on Scientific Assembly

Dr. James R. McVay, Kansas City, Mo., re-elected a member of the Council on Medical Service

Drs. Elmer Hess, Erie, Pennsylvania, and Jesse D. Hamer, Phoenix, Arizona, elected to the same Council

The House of Delegates selected Chicago as the 1948 convention city, Atlantic City for the session in 1949 and San Francisco in 1950.

Important among the resolutions adopted by the House of Delegates was the one discharging the Committee on National Emergency Medical Service and constituting this body as a council of the Board of Trustees, to be known as the Council on National Emergency Medical Service. This is a real progressive step, and the work of this group will go forward toward planning for medical care of civilians and military personnel in the event of a national emergency.

Adopted *in toto* were the recommendations made by Dr. Edward L. Bortz of Philadelphia, our new President. They were:

1. A two-day scientific session for general practitioners at the time of the semiannual meeting of the House of Delegates.

2. Change of meeting place for the semiannual session, to convene in a different geographic district each year, at which time the two-day session for general practitioners would be held.

3. A closer affiliation with third- and fourth-year medical students, possibly by affiliate membership, and re-establishment of a student section in *The Journal*, and encouragement of presentation of scientific papers at county, state, and even national levels; also to study the possibility of a student section of the scientific assembly.

4. The Secretary, in collaboration with the councils and bureaus, to prepare an attractively illustrated booklet describing the various activities carried on by the Association for distribution to graduating medical classes. (Note: This booklet has been in preparation and was sidetracked by work of the Centennial Session.)

5. Further clarification of public relations activities of the Association.

6. More experienced representatives as speakers for lay groups and legislative bodies, and the establishment of a speakers' bureau to assist those representatives.

7. Greater utilization of the Woman's Auxiliary as an instrument in the field of public relations.

8. Establishment by the House of Delegates of a Committee on Nursing Problems.

9. Better channeling of information to the House of Delegates of the activities of departments, bureaus, and councils.

10. Active cooperation by the Association with governmental officials to work out a program for prompt medical service in case of another national emergency. (See new Council on National Emergency Medical Service above.)

11. The House of Delegates to take under advisement a future building program for the Association headquarters.

The Council on Medical Education and Hospitals adopted new standards for resi-



dencies and fellowships in the specialties. These will appear in the proceedings of the House to be published in *The Journal*, and will also be reprinted and distributed.

The Chicago Medical School is making good progress in an effort to improve its educational program in medicine, but it is not yet included on the list of approved medical schools maintained by the Council on Medical Education and Hospitals of the A. M. A.

The National Conference of County Medical Society Officers billed as a "Grass Roots Conference," held its initial meeting in Atlantic City and was unanimously voted continuance. This action was approved by the House. Future meetings will be held for the purpose of developing a working partnership between the A. M. A. and every physician.

The revised constitution and by-laws will lay over for a year.

Sincerely yours,

GEORGE F. LULL, M.D.,

*Secretary and General Manager.*

P.S.: The Atlantic City registration totaled 15,667 physicians, making our Centennial Session the greatest medical meeting ever held anywhere in the world.

## MEDICAL SOCIETIES

### *Knox County:*

June 10: "Vagotomy with Case Reports," by Dr. Charles C. Smeltzer. Discussion by Drs. L. G. Caylor, W. A. DeSautelle and C. L. Chumley.

### *Upper Cumberland Medical Society:*

The Upper Cumberland Medical Society met at Red Boiling Springs, Tennessee, on June 24, 25, 1947. Members of the society declared that this fifty-third annual program was among the best in the long history of the Society.

There were fifty-three registered members present. Visiting essayists from Nashville, Knoxville, Chattanooga, Bowling Green, Kentucky, and Washington, D. C., added excellent papers to the many capable lectures given by members of the Society

from all over the Upper Cumberland area. During the full two-day assembly, seventeen papers were presented. Modern methods of the prevention, diagnosis, and treatment of disease keynoted the session. Many of the lectures were illustrated by lantern slides, projected diagrams, and full-color motion pictures.

The Society was presided over by President A. B. Qualls, M.D., Livingston. The following officers were elected on the second day:

President—D. D. Howser, M.D., Lafayette.

First Vice-President—C. A. Collins, M.D., Wilder.

Second Vice-President—R. C. Gaw, M.D., Gainesboro.

Secretary-Treasurer—L. M. Freeman, M.D., Granville.

Other visitors, in addition to the visiting essayists, included H. H. Shoulders, M.D., immediate past-president of the American Medical Association, Nashville, and V. O. Foster, Assistant Secretary, Tennessee State Medical Association, Nashville.

The Society voted to return to Red Boiling Springs next year for its fifty-fourth annual meeting.

### *Washington-Carter-Unicoi:*

The regular monthly meeting of the Washington-Carter-Unicoi County Medical Society was held at the Johnson City Country Club, Thursday, June 5. There were about fifty members and guests present.

A Tri-County Cancer Clinic to be held weekly at the Appalachian Hospital, under the sponsorship of the Tri-County Medical Society, was approved. A volunteer panel of physicians willing to serve will be compiled.

Dr. R. L. Sanders of Memphis gave the scientific report, speaking on the "Treatment of Peptic Ulcers by Bilateral Vagal Resection." His paper was illustrated with lantern slides showing the technique for partial removal of the vagus nerves. He emphasized his points on this new approach to the ulcer problem, which offers much hope in those cases which formerly required more extensive surgical procedures, but this

does not replace medical treatment in the majority of cases.

WALTER D. HANKINS, M.D.,  
Secretary-Treasurer.

## ABSTRACTS OF CURRENT LITERATURE

### ANESTHESIA

By H. M. AUSERMAN, M.D.  
Medical Arts Building, Chattanooga

Semantics and Anesthesiology. Editorial, Anesthesiology, May, 1947.

Physicians contemplating a career in anesthesiology are frequently plagued by well-meaning friends who are motivated by a traditional Aristotelian philosophy into admonishing against or, at least, into seriously questioning the expediency of entering a specialty of medicine the work of which has been customarily relegated to technicians. Even without benefit of such deterring counsel, the neanesthesiologist, who has been conditioned since birth in an environment which reverses established practice, has difficulty in resolving for himself the numerous conflicts between the dominant orthodox concepts of the prescientific culture and newer (and more promising) orientations of the age of science.

The deep-seated philosophical convictions which underlie and provoke the expressions of well-meaning friends are not difficult to understand. Nor is it difficult to appreciate the struggle of the embryonic anesthesiologist to free himself from this ancient traditional pattern. In his recent book, *People in Quandaries* (Harper and Brothers, New York, 1946), Wendell Johnson gives concise expression to the matter:

"Change has been suspect and has been resisted throughout the history of the race. It has been customary for fathers to pass on to their sons the creeds and customs which their own fathers had passed on to them. Ancestors have been worshiped and the Old Man has been honored from time immemorial. Education has been chiefly a matter of compelling the child to conform to the ways of his elders. The student has been taught answers, not questions. At least, when questions have been taught, the answers have been given in the back of the book. In the main, knowledge has been given the student, but not a method for adding to it or revising it—except the method of authority, of going to the book, of asking the Old Man. The chief aim of education has been to make the child another Old Man, to pour the new wines of possibility into the old bottles of tradition."

The physician entering the practice of anesthesiology must be prepared to break with tradition. In freeing himself of this bondage, he demonstrates

that he is by nature a man capable of perceiving new horizons, of distinguishing differences as well as similarities, or recognizing that there are questions without immediate answers and of encouraging change. The specialty of anesthesiology enjoys a unique distinction in being peopled with men of this character. The specialty has, by the same token, an obligation to its constituents—an obligation that there be no repression of these men who have helped to perforate the dikes of Aristotelian medical philosophy and that there be continuation of emancipation of medical thinking.

### CARDIOLOGY

By J. ALLEN KENNEDY, M.D.  
Bennie-Dillon Building, Nashville

Treatment of Coronary Artery Disease (Dicumarol Therapy). O. P. J. Falk, M.D., St. Louis. The Journal of the American Medical Association, Vol. 134, No. 6, pp. 491-496, June 7, 1947.

In the treatment of coronary artery disease in general the following considerations necessarily influence the symptoms and signs as well as the prognosis and therapeutic response: (1) The type of coronary artery syndrome presented, whether angina pectoris, acute coronary insufficiency, or actual occlusion; (2) the presence and extent of any myocardial infarction; (3) the amount of associated myocardial damage and consequent impairment of myocardial reserve; (4) the constitutional background of the patient, including heredity, temperament, associated hypertension, or metabolic disorders and general vascular status.

#### ANGINA PECTORIS

The overweight, hypertensive, and diabetic individuals seem particularly vulnerable, and anemia, paroxysmal tachycardia, and hyperthyroidism may be contributing factors. Patients with angina pectoris are characteristically restless and seem notably lacking in the ability to relax. Correction of these characteristics is difficult and failure is common. The author recommends a complete ban on smoking, the use of vasodilator drugs, such as nicotinic acid, papaverine, and alcohol in moderation, the use of nitroglycerin to anticipate unavoidable circumstances which might produce angina. The xanthine derivatives are not recommended strongly. Iodides are probably of value, but androgen therapy does not appear justified. Mild sedation is important.

#### IMPENDING OCCLUSION AND ACUTE CORONARY INSUFFICIENCY

This can be averted at times by the prompt intravenous injection of one or two grains of papaverine followed by aminophyllin and by prompt oxygen therapy if available.

#### CORONARY OCCLUSION WITH MYOCARDIAL INFARCTION

The first consideration should be relief of pain by established conventional measures and then

prevention of further extension of the coronary thrombosis by dicumarol.

For the pain of coronary occlusion, papaverine should be given intravenously followed in ten to fifteen minutes by subcutaneous or intravenous morphine if needed. To prevent reflex vasoconstriction, atropine one seventy-fifth grain should be administered also. Oxygen should be administered by nasal catheter or facial mask. If ventricular extra systoles are frequent, quinidine should be used to prevent ventricular tachycardia or fibrillation.

Before dicumarol therapy is begun, the prothrombin level of the blood is determined, then 300 milligrams of dicumarol is administered by mouth. This dosage is repeated daily, after the prothrombin level is determined each day, until fifty per cent prothrombin time is reached, then 100 milligrams is given each morning until thirty-five per cent level is attained. The author recommends a level of thirty-five to fifty per cent of normal for four to six weeks. If the level becomes as low as fifteen per cent, sixty to seventy-two milligrams of synthetic vitamin K is given intravenously. In the event of alarming hemorrhage, transfusion with freshly citrated blood is given.

The eventual place of dicumarol in the management of coronary occlusion cannot be arbitrarily stated at present. However, the author points out that in the reported series of cases treated with dicumarol the anticipated mortality rate appears to be significantly reduced and the reduction of embolic phenomena with dicumarol therapy has been striking.

Barker, in over 1,000 cases treated with dicumarol, had no serious hemorrhage except in one patient with cancer of the duodenum.

## GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.  
649 Doctors Building, Nashville

Dysgerminoma Ovarii. M. S. Mazel, B.S., M.D., Chicago, Illinois. *American Journal of Obstetrics and Gynecology*, Vol. 53, No. 6, pp. 1036-1040, June, 1947.

"Although fifteen years have elapsed since Robert Meyer enriched our knowledge of ovarian tumors, opinion still is divided both with regard to the degree of malignancy of dysgerminoma of the ovary and the nature of its surgical management. In the light of clinical experience and pathologic studies of dysgerminoma ovarii, there is no room for doubt that this neoplasm is highly malignant. As a corollary, its surgical management logically must be as radical as that of carcinoma of the ovaries. Since the neoplasm attacks even the very young, it is but natural for humane surgeons to hesitate in carrying out an operation that precludes future pregnancy, especially when the capsule of the growth is unbroken. In such a case

one is tempted to restrict oneself to a conservative removal of the tumor and to rely upon postoperative radiation to prevent metastases. But once the diagnosis is made, the most pressing objective is not the conservation of potential procreative power, but the preservation of life itself. To this should be added that after a course of X-ray therapy ovarian function will be destroyed in virtually all cases. Given a growth with an unbroken capsule, the diagnosis after its exposure is not always possible macroscopically, for which reason resort should be had to microscopic section of the removed growth, since the establishment of the correct diagnosis dictates the course to be pursued in the very young as well as mature patients. Certainly radical extirpation of the genital apparatus should be carried out only with the consent of the patients or their parents; but when these are explained, the reason for the operation as a life-saving measure, no difficulty will be experienced in most instances in obtaining such permission. In the very young a compromise may be effected by pointing out that every conservative intervention makes it incumbent to keep the concerned patient under observation in order to enable the surgeon to detect an extension of the growth or the appearance of metastases."

## INDUSTRIAL MEDICINE

By JEAN SPENCER FELTON, M.D.  
Monsanto Chemical Company  
Clinton Laboratories  
Oak Ridge

Symposium: What Is Health Education? Prepared at the request of the Editorial Board of the *American Journal of Public Health*. W. W. Bauer, et al. *American Journal of Public Health*, Vol. 37, pp. 641-652, June, 1947.

The editor of the *American Journal of Public Health* desired brief and succinct answers to the question, "What Is Health Education?" and invited fourteen leaders in health education to present the viewpoints of their specialties.

DR. BAUER, of the American Medical Association, defined health education as the sum total of all our experiences and motivations which add to health knowledge or influence health behavior. He believed it has two principal components, information and motivation, and that any change of health conduct is inspired by the urge to do something. This urge may be based on fear, ambition, jealousy, determination, malice, or a combination of these or other emotional drives. In this there is no action until motivation takes place.

DR. HERMAN N. BUNDESEN, President, Board of Health of Chicago, believed health education is a matter of teaching the community and the individual how to guard against health hazards and described the activities of the Chicago Health Department. He stated frankly that they use the direct approach and simply advertise the Health Department.



MARY P. CONNOLLY, of the Michigan School of Public Health, gave as her understanding, "Health education is that process by which persons become aware of health needs and practices which they may establish to meet these needs." The people responsible for health education are the physician, dentist, schoolteacher, health officer, public health engineer, the sanitarian, public health nurse, and health educator. People perform as they understand in a democracy, and understanding comes from participation.

The United States Public Health Service representative, DR. MAYHEW DERRYBERRY, believed that health education is a series of things that are done to and for people with the purpose of improving their health information, attitudes, and behavior. From the point of view of the layman, a change should take place in his knowledge of scientific health facts, in his attitude toward preventive and curative health practices, and in his daily living habits. He speaks of some negative changes, as for example, the resistance built up to clinic attendance as a result of long waits on hard benches and little help on personal health problems. Or the feeling of futility that comes from a health survey when no information of the individual results is given.

Many of the services which the public receives from medical personnel are charged with emotional reactions of fear and anxiety and, therefore, have great potentialities for health education. He summarizes health education as the reactions of the people to all their experiences with health significance.

DR. THOMAS D. DUBLIN, Long Island College of Medicine, states that progress in medicine must be measured by the speed and compliance with which available knowledge and skills are applied to the total health and medicinal needs of all members of society. A concept of health should be more than the mere absence of disease; rather a state of social, psychological, and biological adjustment of each individual to his environment. It is the physician's task to direct, correlate, and supervise the work of all other workers in the health field and to aid his patients in utilizing available skills. Health education is inescapably a major function of the physician, and yet, unfortunately, it is an activity for which there has been little preparation, either through training or experience.

The Executive Director of the New Haven Visiting Nurse Association, MISS ELIZABETH G. FOX, believed that health education is most successful through personal contacting when the pupil and the teacher can sit down together and talk over a live situation.

DR. HOWARD W. GREEN, Secretary of the Cleveland Health Council, thinks that health education, to be effective, must be directed toward specific groups of individuals whose educational and intellectual levels are known. It is not enough to teach—health education must play upon the

basic human interests: love for children, desire for athletic strength, and pride in continuous work without loss of time from sickness. A goal should be set up of radiant, positive good health, as contrasted with mediocre or partial well-being.

Speaking as Director of Health Education of the Cincinnati Public Health Foundation, MR. WILLIAM S. GROOM believed that health education, like everything else today, has to be condensed and that the primary purpose of health education is to disseminate authentic information and advice which will allow the layman, in addition to the things previously mentioned, to participate as a citizen in the organized health program of his community. The minimum of information must be disseminated which will provide a maximum of usefulness.

MISS SALLY L. JEAN, Consultant, Health Education, National Foundation for Infantile Paralysis, states that health education converts people so that they will accept scientific health knowledge with such confidence they will discard heresy and tradition and adopt for use only such health practices as have a scientific basis. She believes attitudes must be developed so that this knowledge can be accepted.

MR. BLEECKER MARQUETTE, Secretary of the Cincinnati Public Health Federation, states that one of the tasks of the true health educator is to offset the negative information of the cults, the nostrum vendors, and the folklorists.

DR. LUCY S. MORGAN, of Chapel Hill, believes that in an atomic era wherein man's concern lies in *world* health, one should see health education as a program for all people and to find a mooring for it in the international laws of human existence. Health education must help men to understand the problems of human behavior in relation to the uncompromising laws of nature.

DR. DOROTHY B. NYSWANDER, of the University of California, feels strongly that health education cannot be "given" to one person by another. It is a dynamic, ever-changing process of development in which a person is accepting or rejecting new information, new attitudes, and new practices concerned with the objective of healthful living. The educator must provide aids for people in which as learners they educate themselves. If the health worker merely uses his bag of techniques in educating, with this Dr. Nyswander disagrees.

DR. W. W. PETER, of the Institute of Inter-American Affairs, feels that the health educator must provide subject matter and sugar-coating, an over-all plan and individual incentive, plus occasional arresting devices to compete with other claimants in a bewildering world. He feels, also, that it is an important means of helping people attain a higher level of living.

From Yale University, DR. CHARLES C. WILSON states that health education is an instrument which society uses to help assure individuals the benefits of modern medicine and good health. He further believes that the word "health" refers to a total

condition of the total individual and his social, physical, mental, and emotional components.

Whereas the editor anticipated fireworks in the symposium, he believed that the display had much light but little heat. There is agreement on the fact that health is all-inclusive and that the learner should contribute to the process of learning. Many individuals in medical work are responsible for health education. The development of appropriate attitudes on the part of the learner are as important as the giving of specific information.

## OBSTETRICS

By MILTON SMITH LEWIS, M.D.  
Bennie-Dillon Building, Nashville

Management of Placenta Previa at the Chicago Lying-In Hospital. A Review of 325 Cases During 1931 to 1945. M. Edward Davis and Alice Campbell. Surgery, Gynecology, and Obstetrics, Vol. 83, pp. 777-788, 1946.

Mortality from placenta previa has greatly decreased with early diagnosis, hospitalization, rational obstetrical care, and general use of blood and plasma transfusions. It is estimated that fifteen to twenty per cent of maternal deaths result from placenta previa. Failure in the mechanism of transportation of the fertilized ovum is suggested as the possible cause of this disease. The ovum attaches itself to the location where it is when fertilization occurs, and the degree of placenta previa is dependent upon how close it is to the internal os when implanted.

Placenta previa occurred in 0.79 per cent of the 40,961 patients delivered in this hospital. Three out of four patients were multigravidas. The painless bleeding in the later weeks of pregnancy is considered pathogomonic of placenta previa, but in thirty-nine patients (twelve per cent) in this series, initial bleeding occurred before the twenty-eighth week; in fifty-three (sixteen per cent) between the twenty-eighth and thirty-second week, that is, before fetal viability. The onset of effacement of the cervix and uterine mobility, rather than the degree of placental coverage of the internal os, determine the onset of bleeding and the extent of previa; whether labor has begun determines the severity of the bleeding. Onset of labor causes the hemorrhage to increase or to recur if it has subsided. A profuse hemorrhage occurred in thirty-five patients before examination and initial treatment; eight entered the hospital in shock.

Evidence of bleeding should be followed by vaginal examination to determine the degree of placenta previa, condition of the cervix, adequacy of the pelvis, and the fetal position. In thirty-three patients no placental tissue was palpated at first, but on return to the hospital following painless bleeding the placenta was easily palpated.

Treatment of this condition includes careful blood study as to hemoglobin content, cell volume,

Rh reaction, and Wassermann or Kahn tests. If after iron therapy the hemoglobin remains under ten grams, transfusion is indicated or suitable blood should be in readiness for use at the time of delivery. Condition of the cervix should be determined and the presence of the placenta over the os noted. Termination of pregnancy is indicated when a diagnosis of placenta previa has been determined.

In this series rupture of the membranes controlled bleeding in ninety-eight cases; some additional treatment was required in ninety-nine other cases. Cesarean section was necessary in the remaining cases. Abdominal delivery is used in incomplete placenta previa, if there has been serious blood loss, if the patient is an elderly primipara desiring offspring, and in patients with an inadequate pelvis. Low or cervical cesarean section (laparotrachelotomy) is the operation of choice. In incomplete placenta previa in which rupture of the membranes does not control bleeding, Willett's method is used.

Cesarean hysterectomy is used only in patients admitted when obviously or possibly infected. Abdominal delivery was used in one hundred forty-three (forty-four per cent) of the patients in this series; ninety-three were delivered naturally; eighty-nine had some operative procedure. Old procedures such as Water's method, tamponade, use of the bag (colpeurynter), introduction of a foreign body close to the placental site, or the Braxton-Hicks, are no longer advocated.

Administration of ergonovine thirty seconds before delivery of the infant is important. The placenta should be removed if separation is delayed. Exploration may be necessary if bleeding continues after the placenta is out of the uterus. Manual removal of the placenta was required in thirty-six of these cases; uterine tamponade to control bleeding in fifteen patients; hysterectomy was necessary in five patients because of continued bleeding. At least one transfusion was required in one hundred thirty-nine patients (40.3 per cent); twenty-one patients had two or more transfusions. Parenteral fluid should be used only in conjunction with blood, not instead of it.

Maternal mortality was 0.6 per cent; 225 of 329 infants (68.4 per cent) lived. Prematurity was the most important cause of death of the infants.

## OPHTHALMOLOGY

By ROBERT J. WARNER, M.D.  
Doctors Building, Nashville

Marginal Corneal Infiltrates and Ulcers. P. Thygeson. American Journal of Ophthalmology, June, 1947.

Marginal corneal ulcers are by far the most common corneal disease in this country. They are usually secondary to conjunctival and systemic disease. The most frequent types are the simple



catarrhal, ring, and chronic serpiginous (Mooren's ulcer). In a detailed study of 200 consecutive cases of marginal ulcer, 180 were catarrhal, fourteen ring, and six serpiginous. Of the 180 catarrhal ulcers, 156 were secondary to chronic catarrhal conjunctivitis, twelve to acute catarrhal conjunctivitis, four to endogenous conjunctivitis, and eight without associated conjunctivitis. Staphylococci were isolated in 133, diplobacilli in eleven, Koch-Weeks bacilli in eight. Coincidental blepharitis and conjunctivitis were a constant feature of ulcers caused by staphylococci and diplobacilli. In the treatment of the staphylococcal group, five per cent sulfathiazole ointment, penicillin ointment, and 1:5000 oxycyanide with ammoniated mercury were most efficient. Staphylococcal toxoid was a successful adjunct in some cases. Topical applications to the ulcer apparently did not shorten its course, as did the treatment of the conjunctiva and lid margins with sulfonamides. There was no evidence that riboflavin or other vitamin deficiencies were a predisposing cause to marginal ulceration. Of the fourteen ring ulcers, three were associated with bacillary dysentery, two with influenza, one with periarteritis nodosa, two with arthritis deformans, and one with lupus erythematosus. Ring infiltrate and ulcers secondary to staphylococcal conjunctivitis responded well to penicillin ointment. In one case due to bacillary dysentery, the use of sulfonamides was followed by rapid improvement. Paracentesis with intravenous typhoid therapy was also possibly of value. In the treatment of chronic serpiginous ulcers sulfonamides and penicillin were without effect. Gifford's delimiting keratotomy apparently prevented advancement in some. Bacterial and other allergies may have been a causative factor in some cases. Marginal keratitis with acne rosacea is believed to be due to secondary staphylococcal infection.

## PROCTOLOGY

By O. C. GASS, M.D.  
401 Medical Arts Building  
Chattanooga

**Chronic Ulcerative Colitis: Diagnosis and Medical Management.** Everett D. Keifer, M.D. Surgical Clinic of North America, Lahey, pp. 631-640, June, 1946.

Accurate diagnosis in chronic ulcerative colitis requires a recognition of the disease in a variety of forms and in varying degrees of severity.

Chronic ulcerative colitis may be defined as a chronic disease of unknown etiology in which there is a diffuse inflammatory reaction involving all coats of the colon and rectum either as a whole or in part.

Since the disease is a chronic one in which remission and exacerbation are characteristic, diagnosis includes the recognition of both active and inactive forms of colitis.

Active ulcerative colitis may present a diag-

nosis problem in the initial attack or as a recurrence of a previous episode. Since the severity is so variable, it may be a mild colonic or rectal disorder without serious disability, or a severe fulminating disease resulting in an early death of the patient.

Inactive colitis may present for diagnosis chronic irreversible organic changes in the lower bowel involving either a limited segment or the entire colon rectum and at times including the terminal ileum. All degrees of variation between these extremes are found.

In the milder forms of active ulcerative colitis the outstanding symptom is a rectal discharge of bloody mucus. In some cases considerable blood is lost while in others there is no visible blood at any time in the course of the disease. Commonly, there are two types of bowel movements. In addition to the usually diarrheal stools consisting of liquid feces with the admixture of more or less blood, there are numbers of rectal discharges which consist of mucus, blood, and pus. The cases of so-called "fulminating ulcerative colitis," characterized by severe bloody diarrhea, tenesmus, abdominal pain, toxemia, and fever, are those in which the factors of acute sepsis is predominant.

The diagnosis depends entirely upon the demonstration of the characteristic changes in the colon and rectum, which can be done by the use of the proctosigmoidoscope or the roentgenogram or both, because only by the correlation of the data obtained in both procedures can a satisfactory estimate of the extent and activity of the disease be made.

The differential diagnosis of ulcerative colitis involves consideration of cancer of the rectum and colon, bacillary dysentery, amebic dysentery, tuberculosis enterocolitis, lymphogranuloma inguinal, and regional ileitis.

The one outstanding fact concerning the treatment of chronic ulcerative colitis is that as yet there is no specific cure. It is extremely doubtful if any well established case of ulcerative colitis can ever be regarded as cured without the complete removal of the colon and rectum. The measures used in the treatment of the disease may be classified as: (1) control of diarrhea; (2) correction of nutritional disturbances; (3) correction of the effects of blood loss; (4) control of sepsis; (5) nonspecific therapy; and (6) psychotherapy.

## ROENTGENOLOGY

By P. H. DIETRICH, M.D.  
50s Medical Arts Building, Chattanooga

**Spondylosis and Spondylarthritis.** J. Borak, M.D., *Annals of Internal Medicine*, Vol. 26, pp. 427-439, 1947.

The author likens the spine to the lower extremities in that both are weight-bearing and instruments of motion. He, however, points out an important difference in that, whereas the joints



of the lower extremities are both weight-bearing and gliding, in the spine the structures concerned with weight-bearing are the intervertebral discs, while motion is the property of the apophyseal joints. Dr. Borak discusses the disorders of these two functions separately.

**I. DISORDERS OF THE WEIGHT-BEARING FUNCTION (SPONDYLOSIS).** The intervertebral disc undergoes age changes consisting of dehydration and resulting hardening of the jelly-like nuclear substance and a replacement of the elastic elements of the disc with fibrous tissue. These degenerative changes cause thinning of the intervertebral discs and a loss of elasticity of the spine and inability to counterbalance the weight. The cartilage having no regenerative power, fracture of the cartilage plates stimulate new periosteal bone, thereby producing marginal spurs or lipping usually on the anterior and lateral surfaces but occasionally also on the posterior surface. The growth of such spurs is determined according to the author by the body weight and age. The marginal spurs and narrow intervertebral spaces are not believed pathogenic. The spurs located posteriorly may give rise to neurological symptoms.

In about ten per cent of cases spinal spurs may be due to other factors, such as deformities, injuries, infections, and neoplastic processes. Such spurs are usually limited to one area and are often solitary. For the most part the spur formation is a reparatory reaction of the vertebral bodies to degeneration of the intervertebral discs due to advancing age.

**II. DISORDERS OF THE MOTOR FUNCTION OF THE SPINE (SPONDYLARTHROSIS).** The only true joints of the spine, the apophyseal or intervertebral contain a synovial membrane, to cartilaginous surfaces and an intervening capillary space. Radiographically these joint spaces appear as from one to two millimeters wide, sharply outlined by two parallel lines. The direction of the articular planes differs in various parts of the spine. In the cervical spine they run in an anteroposterior direction and can be seen in the lateral view. In the dorsal spine they are turned in the frontal direction and can be visualized only on oblique views. In the lumbar spine they lie in a sagittal direction and can be seen in both the anteroposterior and lateral views, although the former is less dependable.

A true spondylarthritis of any origin can occur in the apophyseal joints and, in the author's opinion, is the only type of spondylarthritis unrestrictedly deserving this designation. Disregarding the rare acute conditions caused by specific microorganisms, Dr. Borak differentiates two main types of chronic spondylarthritis: the rheumatoid type and the osteoarthritic type, both of which he discusses.

In discussing the relationship between spondylosis and spondylarthritis attention is directed to the differing conditions in the two types of chronic arthritis of the apophyseal joints. No marginal spurs of narrowing of the intervertebral spaces occur in the rheumatoid type of spondylarthritis since the latter is a disease of young adults and no degenerative changes take place in the intervertebral discs at that age. Only when the patients reach the age at which the spurs normally develop do they exhibit in addition to their spondylarthritis also signs of spondylosis. This indicates that even a highly pathologic process of the apophyseal joints as it occurs in rheumatoid spondylarthritis does not in any way accelerate the process of degeneration in the intervertebral discs. One is time and again surprised to see that even spines of the "bamboo" type showing osseous ankylosis of all spinal joints and complete ossification of the spinal ligaments show no marginal spurs and normal intervertebral spaces. It seems probable that the majority of the patients with a narrowing of intervertebral spaces are likely, sooner or later, to develop osteoarthritis of the apophyseal joints.

The explanation of the connection between destructive spondylosis and osteospondylarthritis runs along the following line: when the degeneration of an intervertebral disc has advanced to a degree producing a narrowing of the intervertebral space, then the superior articular process slips downwards and the congruence between the articulating facets of the apophyseal joints is lost. A state of irritation results which gradually leads to changes in the intervertebral joints, both in the synovia and the cartilage, causing backache and pain on moving the joints. The frequency of radiating pain is due to the proximity of the intervertebral joints and the intervertebral foramina which are traversed by the spinal nerves on their way to the limbs.

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## THE SURGICAL TREATMENT OF LOCALIZED EPILEPSY\*

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Localized epilepsy was first described and its significance first recognized by the great British neurologist, Hughlings Jackson,<sup>1</sup> shortly after the middle of the last century. Since that time the focal seizures characteristic of this condition have borne the name of "Jacksonian convulsions." Such attacks are characterized by a definite and consistent focal pattern with "march" of the convulsion from an initial focal point to involve other portions of the body. By original definition, Jacksonian convulsions are motor seizures but the term has been used more loosely in recent years to include sharply localized attacks which may begin with sensory phenomena. Typically, however, a Jacksonian fit begins with tonic or clonic spasm of one group of muscles in one side of the face, one upper extremity or one lower extremity. The attack may subsequently spread to involve the remaining portion of the same half of the body and later the other side of the body and may in this way come to be a generalized convulsion which if seen late will look like the typical grand mal attack of idiopathic epilepsy. It is a knowledge of the beginning of the attack, therefore, which is of greatest diagnostic importance. Recognition of a consistent focus of origin of the

attack in the musculature of the body is of primary importance in excluding this type of patient from the great mass of cases suffering from idiopathic epilepsy.

The importance of separating cases in this way lies in the well established fact that a focal pattern in a convulsive seizure is clear-cut and conclusive evidence of a focal point of origin of the attack in the brain. A Jacksonian fit means a focus of irritation in or near the cortex of the cerebral hemisphere opposite to the point of muscular origin.

A focal point of irritation implies the existence of a focal lesion, and it seems certain that such a lesion always exists in Jacksonian convulsions.

Quite frequently such a lesion is easily recognizable as a gross mass such as tumor, hematoma or abscess. In other cases there is a cerebral cicatrix resulting from injury, the contractures in which have resulted in cerebral irritation and the production of the convulsions. The diagnosis in such cases is usually made with relative ease by a careful history, neurological examination, stereoscopic X-rays of the skull, spinal fluid studies and pneumographic X-ray examination.

In some cases, however, a gross focal lesion is not demonstrable by any of these means and indeed there may be no visible abnormality of the motor cortex of the brain when it is exposed at operation. Nev-

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ertheless if such patients suffer from Jacksonian convulsions with a definite focal pattern in the attacks, there is a "trigger point" of origin of the irritative manifestation in the motor cortex even though the lesion may not be grossly visible (and in some instances may not even be microscopically demonstrable). It is of such cases that I wish to speak today, for our experience in recent years has shown that the focus of irritation may be removed with highly beneficial results in many such instances and the patient thus saved a lifetime of convulsive seizures even in the absence of gross lesion.

The *etiology* of the seizures is not always demonstrable in this type of case. In some instances a history of injury is obtained, in others encephalitis may have occurred, but in many cases there is no such history and as already stated there may even be no microscopic evidence of cortical disease. Most of our patients who have been subjected to operation have been young. This is only partly a matter of selection of cases, but is also due to the fact that most people of middle age or later who develop focal seizures have grossly demonstrable lesions such as tumor or hematoma. Focal convulsions without such lesions seem to occur most frequently in young people. Our cases have been about equally divided between the two sexes.

The selection of cases suitable for operative treatment is dependent entirely upon a clinical picture which indicates an unmistakable localized pattern in the seizures. Occasionally this may depend entirely upon the description of attacks by the patient or his family, but it is preferable that the surgeon see an attack if possible and obtain subsidiary information whenever it can be done.

In these cases there is no evidence of increased intracranial pressure and usually no demonstrable neurologic deficit. X-rays of the skull and pneumoencephalograms frequently show no abnormality. The electroencephalogram may or may not indicate localization of the abnormal waves arising from the cerebrum but such convulsive

waves are nearly always present in one or more leads of the electroencephalogram.

Selection of cases for operation should depend not only upon the focal pattern indicating a "trigger point" in the cortex but also upon the demonstrated duration, severity and frequency of attacks which make a major intracranial operation justifiable. In other words, the surgeon must be convinced that the patient will be condemned to a lifetime of convulsions unless the situation can be remedied. Satisfactory control by anticonvulsive medication is usually a contraindication to operation unless the attacks are of long duration or toxic effects of drugs are observed.

The purpose of operation is the identification and removal of the focus of irritation which sets off the convulsions. The exposure is obtained by reflection of an osteoplastic bone flap over the motor cortex. When such an exposure is obtained, it is not an infrequent experience to find a rather extensive cortical scar which may or may not be amenable to surgical removal. Such cases are not included in the series here under consideration in all of which no such gross lesion has been present. In two of our cases a previously unsuspected tumor has been revealed and removed, but these cases also are not included here.

In those patients in whom no gross lesion is visible, the motor cortex is explored electrically by stimulation. In this way the precise point on the motor cortex corresponding to the location of origin of the attack in the muscles of the opposite side can be readily identified (the operation is done under local anesthesia). In addition, two other phenomena which tend to confirm our hypothesis regarding a focus of origin of the attacks have been observed in many cases. One of these is the fact that the point of origin of the attacks will often respond to a lower voltage of stimulating current than will the surrounding motor cortex, which may give no response whatever to a current causing prompt movements at the site of origin of the attacks. The second observation is the actual reproduction of the patient's convulsion by



stimulation of the focal point (while the surrounding motor cortex may not respond at all to a similar current). When such a convulsion is produced, it is readily controlled by inhalation of a small amount of chloroform for a moment and offers very strong presumptive evidence that the focal point of irritation causing the attacks has been located.

Points of stimulation are recorded on a map traced over the exposed cortex on sterile cellophane which serves as a permanent record and as a means of relocating a given point.

When the irritative focus has thus been located, subpial resection of this portion of the cortex is carried out. In other words, the actual focus in the motor center of the brain is removed. This can be done almost bloodlessly by the subpial method in which the center of the convolution is incised and the desired portion of the brain removed without interference with the blood supply of surrounding areas.

This operation of subpial resection of a portion of the motor cortex has been carried out in 41 cases who have been followed for periods of two to ten years. Follow-up correspondence and examination and tabulation of results have been carried out by my associates, Dr. William F. Meacham and Dr. Thomas J. Holbrook and detailed analysis of the clinical results is being published elsewhere.\*\*

The primary focus of attack was in the face or one of the extremities on the right side in twenty-two cases and on the left side in nineteen cases.

There were two operative deaths, a mortality rate of 4.8%. Three other patients died after many weeks or months, one of them of pneumonia, the other two in status epilepticus. Thirty-six patients (87.8%) are alive today.

Regarding the disability resulting from a partial removal of the motor cortex, it is of interest to note that Gowers<sup>3</sup> and Horsley<sup>4</sup> observed over fifty years ago that parts

of the motor cortex could be removed without very great subsequent disability. This fact was lost sight of until quite recently and most neurosurgeons have treated the motor cortex with a very healthy respect. Thus Penfield,<sup>5</sup> a pioneer in the field of focal convulsions, has strongly advised against any surgical attack upon this region of the brain, stating that the disability resulting therefrom is too great to justify such a procedure.

Our experience has been contrary to this dictum and has supported the earlier statements of Gowers and Horsley. In fifteen of our patients, no demonstrable residual neurologic deficit is present. Seventeen patients have a mild residual weakness of the affected extremity. Three patients have a moderate weakness and in one patient (who had severe weakness prior to operation) a severe residual paralysis has persisted.

Obviously a complete paralysis of the affected part is present immediately after operation. It is surprising to see, however, that within eight to twelve days voluntary movement begins to return. Within a period of weeks or months in the great majority of instances practically all voluntary power is resumed. The mechanism of this return of function is beyond the scope of this paper but constitutes an interesting physiological problem.

The results of operation as regards the convulsions for which the procedure was carried out have been encouraging. Eight patients (or 19.5%) have had no attacks of any kind since operation. Six other patients had one or two seizures during the first few days immediately after operation and have had no more attacks in the period of follow-up. Six additional patients who were having very frequent seizures prior to operation have had a few widely scattered attacks in the post-operative period. Thus a total of twenty patients, or 48.7%, have been either cured or enormously benefited by the procedure.

An additional nine patients, or 21.9%, are classed as improved because of marked diminution in the frequency and severity of seizures. Eight patients have not been improved. No patient has been made worse

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\*Both Drs. Meacham and Holbrook have been recent appointees to the William Henry Howe Fellowship in Neurological Surgery.



by the operation (except for the two cases who failed to survive).

#### DISCUSSION

In considering the value of an operative procedure of this sort, it is essential that we recognize the alternative condition. Here we are dealing with a convulsive state in which the individual may justifiably be expected to go through his entire life having embarrassing and disabling convulsions with all of the physical, psychological and economic disability which that implies.

An operative procedure whose risk is less than 5% which results in cure or very marked improvement in at least half of the cases and which leaves behind little or no post-operative disability must be considered as a worth-while undertaking.

The profound gratitude of most of these patients is easy to understand. Thus a girl who was operated upon at the age of 15 because of focal seizures which were occurring at the rate of 12 to 20 per day has had no attacks whatever in the ten years since operation. She is the mother of two normal children, and she can do fine needlework with the hand in which the attacks began and which was of course paralyzed immediately after operation. Many other such cases might be cited.

The encouraging results obtained in this series of cases emphasize more than ever the importance of very careful study of all patients suffering from convulsive seizures. The selection of patients who have a clear-cut and consistent focal pattern and who therefore fall into the category of Jacksonian epilepsy will result in great relief to many patients hitherto considered incurable. Only painstaking questioning of the patient and his family, careful observation and thorough neurologic study as well as the meticulous technic of modern operative neurosurgery can yield the best results.

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#### DISCUSSION

DR. R. E. SEMMES (Memphis): Mr. President, Ladies and Gentlemen: Those of us who have been interested in the treatment of convulsive states have continued to call this the problem of epilepsy. The reason for this is that it is still a problem, and a serious one.

The removal of scars and various other lesions of the cortex and subcortical lesions has not been very satisfactory. Recently certain workers, particularly Dr. Penfield, who has excised cortical areas even when nothing more than a microgyrus or atrophy of the cortex was obvious, and later on Dr. Earl Walker of Chicago, who has been excising areas which were picked out by the electroencephalogram as being abnormal, and then Dr. Pilcher, who has had the courage to attack not only these obvious areas but to excise the trigger zone, removing part of area 4—the direct motor cortex.

We saw a number of these patients and were very much impressed by the absence of any crippling paralysis, and with the general appearance of the patients. They seemed to be happy and well pleased with the result.

I would like to take this opportunity to recall to your minds the fact that epilepsy is not a disease but is a symptom, as is blindness, and also recall to your minds that every patient who is cursed with convulsions is entitled to a careful and adequate study to determine which one of the many conditions in the brain resulting in the lowering of convulsive threshold is present in each case.

I want to say that in my opinion this is a very important contribution to the treatment of convulsions beginning with focal attacks. (Applause.)

## TRAINING FOR REGISTERED PRACTICAL NURSES

W. A. SEELEY, State Supervisor of Trade and Industrial Education, State Department of Education, Nashville

The training program for practical nurses as at present organized in Tennessee consists of three major phases, as follows:

1. Twelve weeks of special in-school training, consisting of five six-hour days, or thirty hours per week. During this period the students will receive basic instruction in the practical nurses training laboratory, under a registered nurse, in nursing arts, housekeeping, dietetics and nutrition, the care of the well child, etc.

2. Six months of on-the-job training in cooperating hospitals. Here the trainees put into practice some of the nursing skills and knowledge they acquired while in school under the direction of the hospital nursing staff.

3. Three additional months of on-the-job training experience in convalescent hospitals, homes for the aged, and private home practice. During this period the trainees practice nursing skills and knowledge more or less on their own under actual conditions with periodic supervision by the practical nursing coordinator of the school and the doctor in charge of the patient.

A fourth step for the trainee in attaining her goal is that of passing the State Board of Nursing Examiner's examination. She thus becomes a "Registered Practical Nurse" and wears the pin and uniform to thus identify her as a member of her new profession.

That, in a nutshell, is a brief description of the new program for the training of Registered Practical Nurses as inaugurated in Nashville in April of this year. The program is conducted as a part of the Vocational Education program of the City Board of Education in cooperation with the State Board for Vocational Education and other agencies interested in the training of practical nurses. The first group of trainees will begin their hospital phase of the training program early in July. At the beginning an instructor was employed at the Hume-Fogg Technical and Vocational High School for white trainees and another at Pearl High School for the Negro trainees.

The first of June a coordinator of the practical nurses training program began work. While in the beginning enrollment was not what was anticipated, the new classes that began this month had far more applicants than can be taken care of.

Feeling that there is a definite employment need for two levels of prepared people in the nursing field, the Tennessee Nurses Association secured from the 1945 General Assembly of the State authority to grant licenses and register practical nurses. As an outcome of this and at the request of the Nurses Association, as well as several hospitals in the state, a meeting was called of twenty-three state-wide and local organizations in Nashville who should be interested in such training. At this meeting the proposed program was outlined, suggestions were asked for, and the cooperation of each organization was sought. Practically everyone present agreed that such a program should be inaugurated in as many cities as feasible.

A little later a meeting of representatives of the major hospitals in Nashville was held. At this time the hospitals agreed upon a salary schedule for the practical nurse trainees while they were in the second phase of their training. Their agreement for the white students was fifty dollars for the first two months, sixty dollars for the second two months, and seventy dollars per month for the last two months of the six months' period of on-the-job training in the hospitals. In addition to this, the trainees were to receive two meals per day and the laundering of their uniforms. During the last three months of the twelve months training period, trainees in Nashville are to receive eighty to ninety dollars per month. In each case the employer is to pay the trainees at these rates for services rendered while training.

The entire year's training program for practical nurses as organized in the State of Tennessee is being conducted as a part of the Vocational Education program of the respective local Board of Education, and the school has the responsibility of coordi-

nating the work of the trainees while in the various stages of their on-the-job training.

Exactly how many programs will be inaugurated, where or how rapidly they will be established, is not known. This will depend largely upon the interest of the various organizations in the different lo-

calities and availability of funds with which to conduct the program.

Those interested in such a program in their community should contact their local superintendent of schools, requesting that such a program be established and assuring him of their cooperation in the organization, operation, training, and placement of prospective Registered Practical Nurses.



## CLINICAL ASPECTS OF THE RH FACTOR\*

D. C. SEWARD, M.D., Nashville

When Landstiener and Wiener in 1937 described a new agglutinable substance in the human blood which they called the RH factor, they put in motion innumerable experimentations which have proved to be of interest to the entire medical profession. Just what the RH factor is, has not yet been determined. The name RH factor was given to this substance because of the fact that rabbit blood immunized with the blood of the Rhesus monkey contained this specific agglutinin. After this first step was made, a large series of tests were run on human beings, and it was found that 85% of the white population contained the RH positive factor and 15% contained the RH negative. When this report first came out it seemed that the RH factor was of interest primarily to the transfusionist and the surgeon. It was noted that in spite of the fact that every attention was being paid to the typing of blood for transfusion and even cross-matching was being carried out in detail, a certain number of severe reactions would occur following transfusions and frequently unexplained deaths due to severe hemolytic reactions. According to Collins and Nicholson of the Lahey Clinic, "The reacting substance in the serum of each patient corresponded to the agglutinin of the immune rabbit serum prepared by Landstiener and Wiener by the injection of Rhesus blood." In other words, in RH negative persons this substance is not present but when RH positive blood is given the anti-bodies appear. It was not unusual to transfuse a person one time without any severe reactions even when giving RH positive blood to an RH negative individual, but where repeated transfusions were given the specific agglutinin would develop which would cause reactions and frequently prove fatal.

For a number of years erythroblastotic babies were being born, the cause of which had not been determined. Levine and his co-workers showed the importance of the

RH factor in the pathogenesis of the erythroblastosis fetalis. Just how this process developed is as yet unproven. Some observers believe that the agglutinin in the maternal circulation passes through the fetal circulation producing jaundice and other typical findings of erythroblastosis. It has been stated that there may be some defect in the placenta and through this defect the mother's blood may invade the blood stream of the child, destroying the red blood cells of the child, causing the condition known as erythroblastosis fetalis. Ninety per cent of the mothers producing these infants fell into the RH negative group. The fathers of these babies were RH positive. It has also been shown that the mother's breast milk is able to transmit the agglutinin and that the forbidding of the breast feeding will be a valuable adjunct in the treatment of this condition. It has also been shown that not infrequently mothers who are RH negative with fathers who are RH positive may give birth to their first child without causing the erythroblastosis. Erythroblastosis is responsible for 3.2 per cent of our fetal deaths. (Javert.) It is thought that the single pregnancy does not produce the adequate amounts of the anti RH agglutinins to produce the condition. At this point it might be stated that by referring back to the Mendelian law, if the RH negative in the mother is a recessive rather than a dominant factor other normal children may be born, but it is not infrequent for all pregnancies after the first to be either lost during the pregnancy or be born with erythroblastosis fetalis of varying degrees.

In recent months much has been said in the lay press about complete changing of the blood in these infants. If a complete transfusion is to be done RH negative blood should always be given and it has been advised not to use the blood from the mother even though she is RH negative.

One word of warning at this point relative to transfusing a mother who during labor or after delivery requires a transfu-

\*Read before the Tennessee State Medical Association, Memphis, April 8, 9, 10, 1947.

sion—never use the husband's blood unless it is known that the mother is RH positive. In other words, you can give an RH negative blood to an RH positive individual without causing untoward reactions, but there is a strong possibility that if you give RH positive blood to an RH negative individual you may have a serious reaction and possibly death from the transfusion.

We are faced with the problem of what should be done when we know that we are dealing with an RH negative mother who has an RH positive husband when she presents herself to us pregnant. This is still a debated question. There is a strong likelihood that she may lose her pregnancy before the baby is viable. If the mother goes to such a time as the baby may be viable, Caesarian section has been advised with immediate transfusion of RH negative blood into the new born babe. (Edith L. Potter.) While this procedure has been condemned by others, it seems a very rational procedure.

It is very important to establish a correct diagnosis of erythroblastosis in order to give an accurate prognosis. Among fifty women observed by Edith L. Potter who have had fetuses or infants die of erythroblastosis, twenty-two had thirty-seven subsequent pregnancies, and all the infants had erythroblastosis, only three of whom survived. Dr. Potter likewise mentions the administration of Vitamin K and states that "it is probably wise to administer Vitamin K even though it has no therapeutic value in the prevention of hemolysis." One reason for doing a Caesarian section early is to remove the baby from the effects of the harmful anti-bodies as early as possible.

Approximately 12 per cent of the marriages are between RH positive fathers and RH negative mothers (Drs. J. D. Relfe and J. C. Adams—Erythroblastosis fetalis) and on this basis one would expect a greater incidence than the 1 to 10 of 1 per cent of cases of erythroblastosis fetalis. The discrepancy in this might well be explained on the basis of varying degrees of, and the clinically recognized forms of erythroblastosis fetalis such as: 1. Hydrops fetalis.

2. Icterus neonatorum. 3. Anemia hemolytica neonatorum.

Levine emphasized the obstetric history with complications such as toxemia, macerated fetus, repeated abortions, miscarriages or stillbirths as being very important and analyzed a series of twelve in which a typical agglutinins could be demonstrated. He, too, emphasized the fact that the agglutinins in the mother's blood could penetrate the placental barrier and induce erythroblastosis and its several manifestations. The indications are that if RH negative is immunized once against the RH positive factor this individual remains immunized throughout his or her life. This immunization may be due either to transfusions or to pregnancy. Hence the advice that it is unwise to transfuse young women or girls unless the RH determination is carried out. (McConnell & Gardner, *Southern Medical Journal*, May, 1946.)

It is very necessary that doctors of today be informed at least as to the general principles involved in the so-called RH factor of the blood because the lay press is having so much to say about it that our patients are asking some very intelligent questions, and unless they can be answered wisely we may be embarrassed.

Some preventive measures might be mentioned as suggested by Levine in 1941 who emphasized the fact that great caution must be exercised in selecting compatible donors for transfusing mothers, and especially those who have given birth to erythroblastic infants or with history of habitual abortions, stillbirths or neo-natal deaths. Serious accidents can be avoided if RH negative blood can be used for the transfusions. (Selden, Lundy and Adams, *Surgical Clinics of North America*, August, 1944.)

The time interval between the transfusion of the first RH positive blood and the appearance of the anti RH immune bodies varies. It is stated that five days is considered the shortest period. If the anti RH immune body is already present in the blood at the time that RH positive blood is given to a RH negative individual, an immediate reaction would be expected, and



for this reason where repeated transfusions are needed it is suggested that they be given at from two to four-day intervals rather than waiting five days. This would not necessarily eliminate all reactions but would tend to reduce them. Reports in the literature lead us to believe that iso-immunization is more frequently the result of pregnancy than from repeated transfusions. In these cases the RH factor of the fetus is responsible. On the other hand, the anti RH immune bodies may be passed back into the fetal circulation and react on the red cells of the fetus, destroying them, and producing one of two conditions: 1. Death in utero and termination of pregnancy or, 2. Birth of a erythroblastotic child. It is not infrequent for the first child to be delivered alive and well, but future pregnancies may terminate as stated above.

This may be explained on two grounds— if the father is RH positive and the mother is RH negative, the child has a fifty-fifty chance of being either RH positive or RH negative. If the baby is negative and the mother is negative, there should be no accident; but if the baby is RH positive and the mother is RH negative, there is good reason to believe that the terminations stated will happen. Selden and Lundy state emphatically, "Never use a husband as a prospective donor for a wife, particularly during pregnancy." The safe procedure is to use RH negative donor blood for all RH negative women during pregnancy.

The patients who are to receive blood transfusions should by all means have the RH factor determination made. This, in spite of the fact that it is reported that only one in fifty RH negative persons is readily sensitized to the RH factor. This is true in both transfusions and in pregnancy. In emergency transfusions it may be impossible to wait for the RH determination before a transfusion is begun, but if multiple transfusions must be done, one should insist that the RH factor be determined. In pregnancy, if the RH factor is determined, the fact that a woman may herself be RH negative and her husband RH positive does not mean that she may

not give birth to a perfectly healthy child with her first pregnancy but she, at least, should be warned that the second, third or fourth pregnancy may terminate either with an erythroblastotic child, miscarriage or stillbirth. Some observers suggest that placental defects may determine the outcome by allowing the passage of fetal blood into the maternal circulation, thus producing the anti-bodies. The only way to prevent RH sensitization is to be sure that an RH negative individual is never given an RH positive blood in a transfusion and never gives birth to an RH positive child. The latter, of course, is impossible, but we can be careful about the transfusions.

In taking histories one should always be careful to ask about any transfusion reactions or the birth of a child with jaundice. This will certainly give us a clue as to further investigation of the RH factor. One other possible explanation of the sensitization after the birth of the first child is the possible escape of the fetal blood into the maternal circulation at the time of labor and delivery.

Ninety per cent of the reactions in intra-group transfusions and ninety per cent of the cases of erythroblastosis have been shown to be related to the RH factor. The mere fact that a patient's blood is RH negative does not necessarily prove that the RH factor is responsible for the reactions. Sensitization to the RH factor must have occurred to prove this is the pathologic cause.

Some members of our profession seem to regard the question of the RH factor with a great deal of academic interest but wonder just what practical importance it has. A great many important conditions have been mentioned and some of those will be mentioned again at this time.

If an RH negative woman who has given birth to an erythroblastotic baby should be given RH positive blood in an emergency, it could very easily prove fatal, due to the fact that she has been sensitized to the RH positive blood by her pregnancy. A compatibility test may give warning but when the test is negative cannot be relied



on as evidence of no danger. Diamond points out the fact that severe reactions due to RH incompatibility occur in women who have been immunized as a result of pregnancy and reported that out of 32 cases 21 had moderately severe reactions; six had severe reactions, five of whom died. This emphasizes the danger of transfusing obstetric patients who are RH negative.

Not all RH negative women married to RH positive men become sensitized. Diamond again reports an RH negative woman who gave birth to five children, three of whom lived, the two which died showed no evidence of erythroblastosis, but after giving a transfusion of RH positive blood did become sensitized to the RH factor. The sixth child died of erythroblastosis and the mother had a severe reaction when given a second transfusion of RH positive blood. He further emphasizes the fact that erythroblastosis fetalis resulting from sensitization by transfusion of the RH negative woman with RH positive blood is always the worst form of the disease. To substantiate this he reports twenty-five women, eighteen of whom had two or more babies with erythroblastosis fetalis. Thirty-two babies were born from these women, twenty-eight died before birth, four lived less than 24 hours.

At just what time in pregnancy does the infant begin to suffer harm? Diamond answers this by stating that in women who are sensitized from transfusion the harm begins "probably from about the eighth to tenth week" and are prone to die in utero from the seventh to eighth month.

Another very interesting feature which has been described in the literature as one of the complications of erythroblastosis fetalis is the damage to the nuclei of the brain cells, a condition known as kernicterus. This accounts for a great many of the convulsions, twitchings, opisthotones and respiratory difficulties of the new-born babe and may result in death. (Diamond.) Should the baby survive he may be left with impaired nervous system, spastic paraplegia and mental retardation later in life. Fortunately this complication is rare.

One of the most important of the laboratory procedures with reference to RH negative women during pregnancy is the determination of the increase of the anti RH titer during pregnancy. Diamond points out that if there is a sudden increase late in pregnancy and especially at such time as one believes the baby viable, an induction of labor should be done. He further states that there is a much milder degree of erythroblastosis fetalis than if the infant remains subjected to the high titer of agglutinin until term. He reports forty-one cases of early induction of labor with rising titer of anti RH agglutinin in which there were 32 living children and nine dead.

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### DISCUSSION

DR. W. L. RUCKS (Memphis): Dr. Seward has presented the most important controversial discovery in hematology during the last decade.

The recognition of the RH factor and its relation to all branches of medicine where transfusions are utilized is of utmost importance if we are to prevent transfusion reactions. The promiscuous use of transfusion in the female should be condemned unless there is an RH factor determination done before such a procedure is undertaken.

Erythroblastosis fetalis occurs in about one of every two hundred births. There are three major manifestations of this disease—congenital hemolytic anemia, fetal hydrops, and icterus gravis.

Up to the present time the routine treatment of this disease has been either repeated transfusions or exsanguination transfusion. In cases in which there is a previous history of fetal or neonatal mortality from this cause, premature delivery is often recommended, but is fraught with certain dangers. While this method has saved many infants, many others have progressive icterus without much anemia, developing a severe toxicity and die in two or three days.

If therapy in these cases is to be successful, we must settle once and for all whether RH— or RH+ blood is to be used. Darrow advocates the use of RH+ blood, but I think most of us agree, as Wallerstein so aptly states, that this is a return to the therapy used before the discovery of the RH factor.

After the child is born of the RH negative mother, whose titer has reached the danger level, this child is observed by blood study and the degree of jaundice. We have been using washed red cells for transfusion from an RH negative donor.

We usually give 15 cc. per pound of body weight, although never exceeding 150 cc. of total fluid. In an emergency we will use O blood when this factor has not been determined and time becomes an important factor. Maintaining circulation, increasing the oxygen carrying capacity of the blood, is essential in these cases.

I would like to stress the point that Dr. Seward brings out—that it is necessary that doctors of today be informed of the general principles of the RH factor so that they may be able to explain intelligently to their patients what to expect if there is a difference of RH factors in the married couple.

Also it should be stressed that a great many men carry both the negative and positive factors.

Up to the present time a history of repeated stillbirths or miscarriages, a history of previous transfusions, increased icterus index, the yellow stained amniotic fluid, pale placenta, increased nucleated red cells in the cord blood should make one become suspicious of an erythroblastosis.

DR. A. C. GOSE (Memphis): I think there is one thing that should be brought out in this discussion that you can all "take home with you." Many of you will see a baby that is jaundiced and will need blood, and you may not have the facilities to do a proper RH typing. The thing you should remember is that you can wash the mother's red blood cells in physiological saline and give them to the baby. That will be a life-saving procedure for you.

In the past we have all been giving the father's red blood cells along with the serum, as whole blood, and that was the wrong thing to do. If you will remember that you can *always* give the mother's red blood cells, *if they are washed*, then no harm will be done to the baby, and it may save a life.

As Dr. Rucks said, we might talk four or five hours about this, but that is the thing that you should take home with you. (Applause.)

DR. T. B. YANCEY (Kingsport): I would like to ask to what extent the RH factor has any blood reactions.

DR. C. S. McMURRAY (Nashville): Dr. Buddingh is not here to discuss this paper, but I think it ought not go long without our saying something of the value of the RH factor concerning transfusions in general.

As the doctor just said, the RH factor is tied up in the red blood cell. It is in the red blood cell, and we do know we get the antibodies built up after a transfusion, but it takes a few days for it to get built up. If we have a patient we have to transfuse and give several bloods to immediately, we may get by without any question of the RH factor; but if we have a patient who needs a transfusion and then have to give him more blood the following week, by that time we may have had a negative patient who has been given positive blood, and by the time he comes back for more transfusion he has developed the antibodies. Then we get the reaction.

Personally, I think it is well to run an RH factor on all blood that goes through the blood bank. I talked to Dr. Buddingh about this. He says it doesn't take much time; that there is not much of a cost element. It is done in some blood banks routinely, and I know in Nashville the Ransom



Laboratories have a list of donors we can use when we have negative patients. At Vanderbilt we have the same set-up. I presume they have the same set-up in the banks here in Memphis and in other places.

When we consider that 15 per cent of our population might have a possibility of reaction, we ought to consider a routine RH determination on all recipients and donors.

One-time sterilites—the mother who has had one child and then repeated abortions or miscarriages—naturally the first thing we check is RH factor, and rightly so. Of course we know that RH factor gets down, and when it comes to the sterility problem it is dependent on whether the father is of the homologous or heterologous type. The woman may be able to have one or two or more abortions and then have a normal child, with the heterologous type.

It is a thing to be considered in sterility; and if we have a father who is positive and the mother negative, I suppose about the only thing you could do would be to get another father; but that isn't very conveniently done, so it is a problem that we must think of in connection with sterility.

Thank you. (Applause.)

DR. D. C. SEWARD (closing): First of all, I would like to say that there is a great deal I do not know about this, and a great many others do not know. I have purposely avoided going into the laboratory side of this paper from the standpoint of the RH, RH prime, RH double prime, HR, and so on, because when you get to delving into those terminologies one gets quite confused, and it seems to me that those who discuss it get so confused that I thought it best to avoid it.

My paper today was more on the clinical aspects, and something that would be of practical value to the men who are engaged in active practice, rather than laboratory work.

Personally, Doctor, I know very little about the HR factor other than that I see it mentioned in print so much, but what the RH prime, RH double prime, and the different classifications will lead us into, I do not know.

I was glad to hear one of the discussers emphasize the fact concerning transfusions in young girls. If you transfuse an RH negative girl who may be 12, 13 or 14 years old with an RH positive blood, by one transfusion you may create sterility that will never be corrected.

Another discussor mentioned running the titer on the mother's blood, with the possibility of doing a Caesarian section or an early induction of labor. The argument there is that prematurity is a bad disease by itself, and if there is a possibility that you are going to have it complicated with an erythroblastosis, you are doubling the severity, so to speak. That is just exactly the argument that Diamond brings out for doing an early induction

of labor or a Caesarian section, because you remove the baby from the harmful effects of the mother's blood as early as you think the baby is viable, thereby lessening the chances of a severe erythroblastosis. I think that is very sound reasoning, and I thought that should be mentioned.

Dr. McMurray mentioned the fact (or it may have been Dr. Rucks) of the repeated abortions. Probably most of us present were taught in our medical school days that whenever a woman had three, four, five or six miscarriages we could stamp her at once as being a luetic. We wonder now how many of those did not have RH positive husbands and they were RH negative individuals.

Dr. McMurray mentioned the homozygous and heterozygous. That may get us off into the realm of laboratory a little bit, but I am going to mention a little of the laboratory end of that.

As I am told, this RH factor is passed on by the so-called paired genes. "Homozygous" means that both of the genes will be RH positive. "Heterozygous" means that one gene is positive and the other gene is negative, which, to get back into plain and simple language that we all understand, means that if I happen to be an RH positive individual, and my father was RH positive and my mother RH negative, then I would be a heterozygous RH positive, if I am an RH positive individual. So I think that will clear up the terminology of homozygous and heterozygous. They are mighty big words and they are a little confusing unless they are explained to you.

The possibilities of mothers having future babies after they have had one normal baby, that is, provided the woman is negative and the husband is positive, may have been somewhat overemphasized. The day I left Nashville I glanced at an article by Dr. Hunt, from the Mayo Clinic, and he seems to think that it is being overemphasized.

In Nashville we happen to have in two different hospitals two married interns or house members. Both of the husbands happen to be positive, and both the wives happen to be negative. One of the boys was discussing this thing with me the other day. He has three normal children, in spite of the fact that he is RH positive and his wife is RH negative.

At the other hospital the boy asked me to see his wife a year or so ago when she had her third miscarriage. I asked him if he had ever run the RH factor on his wife, and he said he had not. We did, and she is RH negative and he is RH positive. They have one living child, and the wife has had three miscarriages since.

So it seems as yet there is no fixed rule, and there is a lot yet to be learned. My paper today was just to bring the literature up-to-date as far as I could get it, to keep us informed on the subject of the RH factor. (Applause.)



## THE MOST ADVANCED PHASES IN THE TREATMENT AND ESPECIALLY THE DIAGNOSIS OF TUBERCULOSIS\*

J. B. NAIVE, M.D., Knoxville

Before I take up the matter of the diagnosis and treatment of tuberculosis, it would seem to be well to glance at the entire tuberculosis problem as of now, and to make some sort of a report as to results of the efforts that have been made to solve it. This is a pleasant duty, for such a report not only affords just cause for much satisfaction over the results that have already been achieved, but it provides a firm basis for optimism as we plan further advances against the disease.

Indeed one form of tuberculosis, the bovine type, has already been virtually wiped out, as far as this country is concerned, and this has been done in the comparatively short period of some twenty-five years. All cattle in every county in every state in the United States are regularly tested, and the positive reactors are less than one-half of one per cent in number. So it is not too much to say that we have won the fight against bovine tuberculosis in this country. The effect of this victory is already evident everywhere. The number of cases of bone and joint tuberculosis is steadily and rapidly being cut down; and my orthopedic friends tell me that these conditions give great promise of becoming, before too long a time, relatively rare. Since we have, in fact, eliminated bovine tuberculosis, we know that we can wipe out human tuberculosis also. This we must do, for we cannot let it be said of us that we will not do as much for our people as we have already done for our cattle.

Really much progress has already been made in the fight against human tuberculosis: Forty years ago, the United States tuberculosis death rate was 200 per 100,000. It has now dropped to only 40 per 100,000, an 80 per cent decrease in that short span of time. Thirty years ago, the Tennessee tuberculosis death rate was 200 per 100,000. By 1945, it had dropped to

57 per 100,000, which itself is a rather remarkable decline, and the provisional death rate for 1946 was only 50.6 per 100,000. Unfortunately though the Tennessee rate is still quite high in comparison with those of most of her sister states.

In this connection, it is interesting and encouraging to study somewhat closely the tuberculosis situation in Knoxville, since here we have elements which should guarantee unusual success in the fight against tuberculosis. They are a well informed and highly cooperative medical group, a tuberculosis conscious community, relatively adequate diagnostic facilities and treatment facilities which are, in general, also relatively adequate. Results have been highly gratifying, probably better than we could have dared to anticipate: In 1926, Knoxville had a resident tuberculosis death rate of 155 per 100,000. The official rate for 1945 was 34.9 per 100,000, and the estimated rate for last year was only 32 per 100,000. Here there had been a decrease of almost 80 per cent in only 20 years, a decrease just about twice as rapid as that enjoyed by the entire country. This proves beyond any doubt what capable medical leadership, community education and reasonably adequate diagnostic and treatment facilities can do in the fight against tuberculosis—not only can do—*will do*, in every situation without exception.

But there is no basis for undue optimism; quite the contrary. Tuberculosis is far from being overcome. Indeed, the hardest part of the fight is still in front of us. In 1945, tuberculosis killed 52,916 in the United States, and though it has fallen to seventh place as a cause of death in the general population, it remains the leading cause of death between the ages of fifteen and forty years. Furthermore, there are certain trends which are becoming quite evident: The United States tuberculosis death rate is apparently leveling off at about 40 per 100,000. The Tennessee deathrate is falling quite sharply, and it,

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\*Read before the Tennessee State Medical Association, Memphis, April 8, 9, 10, 1947.

too, is certain to level off fairly soon; at what figure it is too early to venture an estimate. The Knoxville tuberculosis death rate is almost surely leveling off, and at something like 30 to 35 per 100,000. This means that we are already clashing with the law of diminishing returns. Results from now on will be increasingly hard to achieve. Yet we *must* achieve them. These 53,000 deaths each year are preventable. These needless victims of tuberculosis must be rescued, but saving them will call for more constant work than we have been doing, for harder work, and in general it will call for more intelligent work than we have been doing. Continued progress in fighting tuberculosis will call for full use of the following factors, which are, most fortunately, definitely attainable:

1. The public must be better taught to the end that it will know much more about tuberculosis.

2. There must be greatly increased refinement in the diagnosis of tuberculosis, to the end that cases of the disease will be found progressively earlier.

3. Treatment facilities must be made more adequate and must be more generally used.

4. There must be a much more effective rehabilitation and follow-up program to the end that the all too frequent breakdowns will be minimized in number and in seriousness.

In any estimate of the tuberculosis problem, there are certain groups of our people that deserve and should have unusually close study. Indeed, they must have such attention if we are to hope for much more progress in the fight against tuberculosis. In every sense of the word, they are "key" groups, and success in clearing them of tuberculosis will, in a word, mean almost complete victory over the disease everywhere:

1. The "contact" group—those who have been closely associated with one or more active cases of tuberculosis, particularly when such cases are in the same home. These "contacts" almost invariably become infected and are extremely likely to develop active tuberculosis. In fact, they should

be considered as at least twenty to twenty-five times more likely to do this than would be the case had they not been so exposed.

2. Negroes, who not only tend to develop tuberculosis more easily than do white people, but who everywhere have a death rate from two to five times higher than the white rate in the same area, and who are especially dangerous because of their traditionally close association with white people, and particularly with white children.

3. Domestics, food handlers and those in personal service callings, such as barbering and beauty parlor work.

4. Teachers, janitors and other school employees who have any contact with pupils and who might, through undiscovered cases of tuberculosis, endanger pupils or other school workers.

5. All high school, college and university students.

6. All interns, student nurses and hospital employees; and this should include all graduate nurses employed by or working in all hospitals. In this connection, it should be noted that the American Hospital Association now urges that all of its member hospitals have chest X-ray pictures made of all patients admitted to them.

7. Workers in the less well paid groups, whether in industries, stores or offices.

8. Those patients showing any suggestive symptoms, whatsoever, although the goal of our efforts should be the diagnosis of all cases in the pre-symptomatic stage.

9. Finally, there is the "housewife" group, made up of those who, through their close stay in their homes, are prevented from being included in any of the above groups. This a very important one, for it contains at all times many undiscovered cases of tuberculosis, which are, because of close family associations, particularly dangerous.

Now I should like to reverse the order of things as set forth in the title of this paper and proceed, first, to speak in some detail about the problem of diagnosis.

Tennessee has reason to be very proud of the diagnostic work which has been done by its State Health Department. In fact, it has been second to none and has been a



model for the programs now present in many other states. The work was begun some twenty years ago in the form of chest clinics. Then, as X-ray equipment became available, it has been added, giving the citizens of the state, through their physicians, the benefit of the most advanced diagnostic facilities. This service has been a source of incalculable benefit to the state, and it has assured prompt and complete success for the state hospitalization program, which is now getting under way in such a promising fashion. The Division of Tuberculosis Control of the State Department of Health has rendered a magnificent service, and it deserves a very full measure of appreciation.

If we are to secure the earliest possible diagnoses, we must accept as established beyond question the principle that diagnosis, early enough to afford the greatest possible value to the patient, must be made by the use of the chest X-ray picture, and that we can no longer safely rely upon the physical examination. In fact, the physical examination is in general worse than inadequate. It is all too often dangerous and harmful, because it gives the patient a false sense of security. May I appeal to you to avoid always dependence upon the physical examination when an X-ray machine is available? And to use, instead, a properly taken and reliably interpreted X-ray picture of the chest.

Ordinarily, I would mention the sputum test only to condemn it as a diagnostic aid. Usually it should be condemned, for in almost all cases it does not make diagnosis possible until great harm has been done. Sometimes, though, proper concentration methods will make possible a diagnosis when even the X-ray picture of the chest is clear. So I would recommend such a sputum test only as a source of possible aid to the X-ray picture.

If we accept then, as we should, the chest X-ray picture as the proper means of diagnosis, we immediately face this question: "How can we best use this aid in order to cover properly the largest possible number of people in the shortest possible time?" For just here is the key to continued suc-

cess in the fight against tuberculosis. Very extensive coverage of our population can be gotten through the X-raying of groups, especially when a photofluorographic X-ray unit is available. Such a machine has just been installed at the Bureau of Health in Knoxville. It will be used to X-ray not only the patients in the chest clinics, but also all applicants for health cards and, later we hope, prospective employees in advance of their being put to work in Knoxville and Knox County industries, offices and stores, thus supplementing the work of a mobile unit, which has been in service for three years, which visits such industries and stores at least once a year and which has been responsible for the diagnosis of many cases of tuberculosis, all unsuspected and some far advanced. The mobile unit has also been used to cover high schools and hospitals and, it is hoped, that it may before too long, be sent out into communities where there is much tuberculosis for complete neighborhood surveys. Such a program covers fairly completely the groups which I mentioned earlier in this paper. Two groups, however, deserve special mention—the "contact" group and the group made up of those who go to their physicians because of symptoms. Members of the former group should, first of all, whenever possible be saved from further exposure. Then they should have their chests X-rayed and, according to my opinion, this should be repeated at least twice a year for white people and at least three times a year for Negroes. We have just diagnosed a Negro contact who had a clear chest X-ray picture only four months ago. She now has considerable involvement and a positive sputum. I believe that these periodic X-ray rechecks should be kept up indefinitely, preferably for life. These contacts should, of course, be under the constant care of physicians.

However this matter of diagnosis is handled, the private physician has a large share and a large responsibility. Usually he sees the patient first, particularly if there are any symptoms. He should never dismiss any case with the slightest symptoms suggestive of chest trouble as not needing an



X-ray picture. More than that, the cause of tuberculosis control would be wonderfully aided if all physicians would do as certain Knoxville physicians routinely do: Tuberculin test all of their patients and have the positive reactors X-rayed. If all of the physicians in the country would do just that, it alone would mean the elimination of tuberculosis within the next generation, maybe much sooner.

It may be objected that miniature films provide only a screen and that they are not sufficiently reliable. Perhaps this is true in many cases, but they surely do provide screening, which itself is worth a great deal. Moreover, with the 70 mm. films properly magnified and capably interpreted, diagnoses are made possible in most cases. However, in any and all doubtful cases, a 14x17 check-up picture should be made.

Too much cannot be said for every possible refinement of chest X-ray service. In no other way can sufficiently early diagnoses be made to give treatment a fair opportunity; for early diagnosis is the key to successful treatment. The early case is many, many times more likely to get well and to stay well than is the advanced case, even the moderately advanced one. In general, the outlook for the early case is very bright. The outlook for the advanced case is certainly not bright; all too often it is very gloomily. Finally, there is the great added value that usually the early case has not, as yet, become a spreader of infection. Early diagnosis is, therefore, a powerful aid in the prevention of tuberculosis.

Now as to the treatment of tuberculosis: In general, this still depends upon the well known principles of rest, an abundance of good food, fresh air and a contented mind. I am convinced that treatment can be best carried out in an institution, though there are many who feel that home treatment is as successful as is sanatorium treatment.

I have no quarrel with them as long as they insist upon complete rest over a sufficiently long period, careful segregation in order to avoid any spread of infection and prompt recourse to sanatorium treatment at the first indication that the patient under consideration is not responding satisfac-

torily to home treatment. In fact, due to our general shortage of beds for tuberculosis patients, many of these must be treated at home.

Whether in a sanatorium or at home, the patient should, generally, have the benefit of a fair trial at conservative treatment before any form of collapse is attempted; and it is surprising what results this gives, especially in early cases. If collapse treatment becomes necessary, it should be undertaken as soon as the need becomes definite; it should be carried out energetically, but of course with extreme care, and it should be carried through to its logical conclusion. Such a program would involve, for instance, prompt discontinuance of unsuccessful pneumothoraces in favor of other procedures, usually thoracoplasty. Thoracoplastics would, therefore, as a usual thing, be done much earlier than they are now done; and they would tend to offer progressively more to the patient at less cost in time, in suffering and in actual danger. There certainly seems to be a trend toward more and earlier thoracoplastics. Given adequate surgical facilities and enough well trained chest surgeons, this is without doubt a very good thing.

For the sake of completeness, I should mention lobectomy, among the newest surgical procedures and streptomycin on the medical side. These things offer promise, but they are still in the experimental state. They deserve careful watching.

As the state hospital program provides more beds, the treatment of tuberculosis in Tennessee, and particularly the surgical treatment of the disease, will come into its own, with ever-increasing hope for the tuberculous sick, conditionally, of course, upon the medical profession's success in providing that indispensable basis for the best possible treatment—*early, earlier and still earlier* diagnoses.

#### DISCUSSION

DR. W. H. ANDERSON (Booneville, Miss.): This was a mighty fine paper. We are getting on the right track and are making wonderful progress. I was thinking yesterday when I spoke to the Rotary Club on the cancer problem that we are now losing about 190,000 persons per year from cancer. It has not been long since tuberculosis was

right up to the cancer figure. Now I believe it is 52,000 per year.

I have watched with a good deal of pleasure the progress made in Tennessee. I feel proud of the work Dr. Carr has done here in the surgical line. I think the essayist is on the right track when he speaks of finding these cases early. Any case that is the least suspicious should have an X-ray of the chest; this should really be routine.

In our office more and more we make X-rays of the chest. We have not only tuberculosis, but we have cancer also that makes it important to have an X-ray of the chest. I think we have made a big advance by not depending alone on the fluoroscope, but by making a picture of the chest, when we find tuberculosis early we have a great advantage.

We appreciate the fine surgical work being done on the chest. It keeps the patient from scattering the disease by spitting off the germs; but the great body of the work must come from the practitioners on the firing line when they have these cases. If we find them early, certainly many of the cases can be arrested and cured without their even going to a sanatorium.

We are glad to have the surgery done on the chest, but if we do our full duty in the rural communities it will not be long before we will not need sanatoriums as much as we think now. They will be out of date to a certain degree as far as chest surgery for tuberculosis is concerned.

This is a fine paper, and I want to again thank the essayist for it.

Thank you very much. (Applause.)

DR. H. C. CHANCE (Cumberland Gap): I never like to throw cold water on any discussion that comes up, because we have come a long ways in the case of tuberculosis since I began to notice this work about twenty-five years ago. We possibly have a death rate of about one to four of what we had then.

Now we all insist on X-rays of chest. After we get the pictures we don't always see all they should tell us. The shadows on the films are not lettered, but you must use your head to tell what they are. In other words, if unable to read the pictures or get some one to do so, you are still very much in the dark.

We all do the best we can. It is the most certain help we have in diagnosis of tuberculosis, and we lack lots of being certain in some cases even then.

We have many other conditions that produce shadows in the chest film which are not tuberculosis. The only thing is to do the best we can and keep on doing the best we can.

I recently pictured a chest that startled me. I had never seen anything like it, nor have I found anyone else who had. I have sent it to

three health boards—Virginia, Kentucky and Tennessee—they have each told me a different thing about it, and I am sure each is wrong.

So the radiograph is not always the last word in diagnosis but the best single point by long odds.

If we would always insist on a radiograph of all doubtful chests, we would find some cases we are not finding now in the stage that we can control.

Dr. Naive spoke of a thing that I think should be urged more strongly: That is, all people who have been in close contact with active cases should be X-rayed every few months for the first two or three years after end of contact. Some of them X-rayed now may show nothing, but do it again in six months and the shadow is definite—a well started case of tuberculosis.

So, while radiography is on the right track, it is not absolute, as nothing in human reach is perfect or absolute. Yet it is the best we have. The sputum test is very poor as is the physical diagnosis for the simple reason that the diagnosis so made is too late to do the patient much good.

DR. R. S. GASS (Nashville): I am sorry I could not be here to hear Dr. Naive's paper, but I did have the pleasure of reading it, and I think it is a fine paper.

The only remark that I would care to make is with regard to the examination of sputum, which I think the speaker just previous to me has discussed. Dr. Naive is correct, I believe, in speaking of the minimal case of tuberculosis, where one should not depend on a positive sputum before treatment is established; but in these days when there is so much collapse therapy being used in the treatment of this disease I believe one should make sure that the sputum is positive before a thoracoplasty is performed or even a pneumothorax.

We know that there are a good many other diseases of the lungs that resemble tuberculosis in a roentgenogram, and before instituting any form of collapse therapy, it is essential to be certain that the pulmonary condition is tuberculous.

I want to congratulate Dr. Naive on this excellent presentation.

DR. J. B. NAIVE (closing): I am deeply indebted to those people who were kind enough to discuss my paper. Right here I want to digress for just a moment.

Dr. Hamilton was kind enough to refer to our associations in the anatomy laboratory. Those were delightful associations, and I would like to say that there is no boast of my life greater than what has happened to those people whom I knew and with whom I worked in the laboratory. In fact, I would be willing to give all I ever have done if I hadn't accomplished anything more than to help our good friend, your President, a little bit along his way. (Applause.)



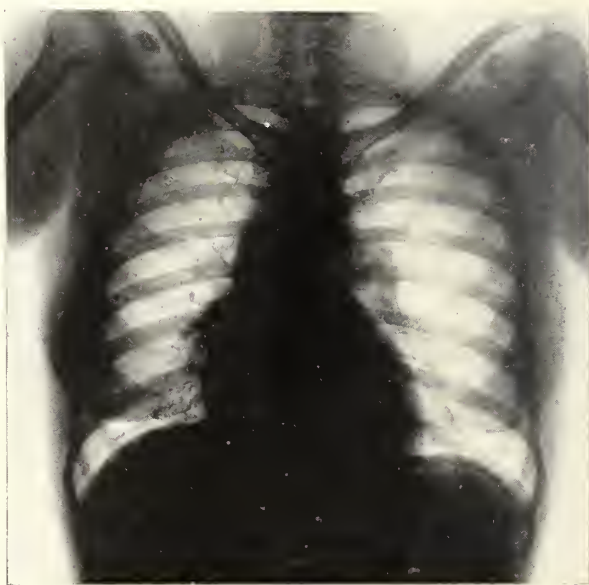
## PULMONARY MONILIASIS TREATED WITH PENICILLIN

BERNARD M. ZUSSMAN, M.D., Memphis

Patient is a colored female, aged thirty-nine, whose chief complaints of chest cold and cough started in January, 1945. At that time she was X-rayed and found to have a lesion in the right base of her lung which suggested tuberculosis. There has never been a history of hemoptysis or night sweats but there was considerable weight loss. She was therefore admitted for observation to the Franklin County Tuberculosis Hospital, Columbus, Ohio. X-rays revealed viz:—Evidences of consolidation in hilum of right lung and marked infiltration and mottling which extends peripherally into parenchyma. Left lung negative except for prominent hilar shadow. First impression was that of unresolved atypical pneumonia, tuberculosis or malignancy. Sputum examinations were all negative for acid-fast bacilli; as were bronchoscopic specimens. On March 17, 1945, culture from sputum examinations revealed *monilia albicans*, hemoglobin 70.6%; red blood count 3,570,000; white count 5,000; seg 61; lymphocytes 25; monocytes 12; eosinophiles 1; basophiles 1. Kahn negative; urinalysis essentially normal. Temperature ranged from 98 to 99.4; pulse 80 to 100. Weight 117 lbs. Patient was referred to chest clinic for a course of iodide therapy which she

received for six weeks, without any appreciable improvement.

Several months later (October, 1945), she moved to this city and presented herself with a history of continuous cough and weight loss (24 lbs.). Physical examination revealed a thin and poorly nourished female adult, weighing 104 lbs. Heart negative; lungs revealed moist rales and broncho-vesicular breath sounds at right base. Blood pressure 120/70. Physical otherwise negative. X-rays taken October 24, 1945 (Fig. 1) confirmed the original finding six months previous. Patient was hospitalized and started on penicillin, being given 25,000 units every three hours, night and day, until a total of 1,500,000 units had been given. There was an immediate and striking improvement. Appetite became normal and cough and expectoration subsided. She was given no other therapy in hospital. Following her discharge from hospital, she was advised to come to office. Because she was still coughing slightly, she was started on potassium iodide in syrup ferri iodii drams one, three times daily. She was carefully followed at weekly intervals and given Bismuth potassium tartrate 0.15 grams intra-muscular. By March of following year, she had re-





gained all of her previous weight. No cough or expectoration. Chest examination revealed coarse rales and broncho-vesicular breathing were still present at right base but markedly diminished. In July of 1946 she weighed 121 lbs. and lungs were completely negative. X-rays revealed (Fig. 2) increased markings on right side, but no consolidation or infiltration as previously reported.

**DISCUSSION:** This disease was first described by Castellani in Ceylon in 1905. Since then numerous cases have been reported from all countries except Australasia. It is apparently more common in tropical and sub-tropical countries and its occurrence is probably more frequent than recognized. Reeves in 1941 reported 79 cases of broncho-mycosis, of which forty were due to monilia. The incidence has been reported as being particularly high in the South. Inhalation is an important factor



in contracting the disease, due to the fact that the monilia fungus is resistant to drying and can exist for long periods of time in a dusty, dry environment. Monilia have been found to exist as saprophytes in human mouths and secretions of the body. As a rule they are non-virulent, but under suitable conditions they may become pathogenic to lung tissue. Such disease entities as bronchitis, pneumonia and influenza provide proper environment for the growth of the monilias. The diagnosis cannot be made on clinical or X-ray findings alone. Ultimately the laboratory must be the deciding agent in the diagnosis. To make a proper laboratory diagnosis, staining and cultural methods should be used and in addition animal inoculation must be employed to determine pathogenicity of the monilia strain. **Treatment:** Mild and moderate cases respond well to kali-iodide in doses of 15 to 30 grains three times daily. Some have suggested sodium iodide 15 grains intravenously followed by kali-iodide orally for two weeks daily. Marrett has used antogenous vaccine of monilia with some benefit. One author reported favorable results with sulfa-pyridine. Here is presented a severe case of broncho-pulmonary moniliasis, which did not respond to iodide therapy, but which showed a dramatic improvement as soon as penicillin treatment was begun and continued until a clinical cure was obtained.

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## A UNIQUE HEART TETRALOGY WITH PALINDROMIC RHEUMATISM\*

DAVID SCHEINBERG, M.D., M.Sc. (Med.), Memphis

I have a patient who has recurrent attacks of arthritis. These I had failed to properly classify until now. Recently, Hench and Rosenberg of the Mayo Clinic reported the syndrome of palindromic rheumatism in which group, I believe, my patient's arthritis belongs.

This case is reported not only because of the rarity of this type of rheumatism, but also because this patient had a unique type of congenital heart disease, presenting a tetralogy defect. (Neither Fallot nor Eisenmenger's complex.)

I do not wish to give the impression that congenital heart disease has any relation to palindromic rheumatism. This patient was born with one and developed the other.

Palindromic rheumatism as described is characterized by oft recurring multiple afebrile attacks of acute arthritis and peri-arthritis with pain, swelling, redness, and disability. The attacks appear suddenly, develop rapidly, generally last a few hours or days and then disappear completely, but recur at irregularly spaced intervals.

The patient is a white male, forty-three years of age, whom I first saw two years ago. His complaint was severe pain in the right elbow and left knee, coming on suddenly twelve hours previously. He had been suffering from attacks of rheumatism during the past five years, having about three to five attacks a year, an attack lasting two to seven days. He related that he had been studied at several New York City institutions and that he was not sure what diagnosis had been made. He was told in one hospital that he had rheumatic fever.

Examination revealed a middle-aged, disabled, asthenic white male lying in bed in acute pain. The temperature and pulse were normal and there were no suggestions to toxicity. There were no cyanosis or dyspnea, but rather a peculiar pasty paleness. The right elbow was red, swollen, and painful on motion. The left knee was also involved, but to a much lesser degree.

Quite interesting and unusual were the heart findings. Both pulses were equal, regular, and of good volume. There was conspicuous elevation of the chest wall in the region of the second and third ribs on the left, but no pulsation in this area. There was no engorgement of the veins in the neck and no visible pulsations of vessels. Over the pulmonic region a distinct and marked systolic thrill could be felt, but no lifting of the chest wall. There were no shocks in this area. There were no shocks or thrills over the apex or aortic region. The apex beat was palpated in normal position; it was not overactive. Blood pressure 120/82.

The stethoscope revealed a systolic and diastolic murmur best heard in the fourth interspace just to the left of the sternum. It was distinct, but not harsh, and both components were of about the same duration. At the apex the first and second sounds were present and apparently normal. Over the third left interspace a rasping systolic murmur coincided with the systolic thrill.  $P_2$  was audible, distinct, but not very loud.  $A_2$  was louder than  $P_2$ .  $A_1$  was normal.  $P_1$  was not distinct. The liver and spleen were not palpable; there was no clubbing of the fingers.

The patient was removed to the hospital, as he required analgesics by hypodermic every four hours. Aspirin was of very little help. The laboratory findings revealed a normal urinalysis and 4,500,000 red blood corpuscles with 9,400 white blood corpuscles of normal Schilling distribution.

The attack subsided in five days. During his hospitalization the temperature never was above 99.4 degrees. There were no apparent constitutional disturbances. The involvement of the joints disappeared entirely, as if they were never involved.

At a later date the patient was studied with the fluoroscope. This revealed moderate enlargement of the right ventricle. The left auricle was not enlarged (barium); the ascending aorta and arch were normal in size, shape, and pulsations. In the re-

\*Read before the Tennessee State Medical Association, Knoxville, April 9, 10, 11, 1946.

gion of the pulmonary conus there was marked dilatation of the pulmonary artery presenting a round pulsating shadow about the size of an orange. This shadow extended anteriorly and to the left toward the chest wall.

I shall briefly relate of five more attacks of arthritis that the patient suffered during the last two years before we begin discussion of the case. The attacks simulated the one described above. One was more severe and involved the right wrist and knee; another attack was very mild and lasted only one day; none caused constitutional disturbances. Between attacks the patient was perfectly all right as far as his rheumatism was concerned; changes in weather did not seem to cause aching. The patient never displayed any evidence of heart failure, but mild attacks of temporary cerebral ischemia have occurred.

In this report we shall consider in differential diagnosis only rheumatic heart disease with rheumatic fever since this was the diagnosis proposed at one institution.

When the patient is first observed during an acute attack of rheumatism, finding two joints involved unequally with systolic and diastolic murmurs, rheumatic fever certainly comes to mind. However, in spite of the severeness of the arthritis, there is no disturbance in pulse or temperature. Observing the patient during several attacks and noticing the lack of myocardial damage either during or after the attacks also speaks against rheumatic fever.

The lesion in the heart is congenital, with partial pulmonary stenosis, patent

interventricular septum, patent ductus arteriosus with marked dilation of the pulmonary artery and right ventricular enlargement (fluoroscopy and E.K.G.). A congenital tetralogy, but not tetralogy of Fallot.

It would be interesting to reiterate some of the clinical points presenting themselves. A word may be said about the peculiar and constant pallor of the patient. This pallor is probably due to diversion of some of the blood from the peripheral arterial system to the pulmonary system by way of the patent ductus. To the same cause may be attributed the occasional attacks of minor Stokes-Adams syndromes. Several closely related and weak extrasystoles would definitely further reduce the already somewhat diminished blood volume reaching the brain. In the usual patent ductus this much diversion of blood does not occur. However, in this case, the patency is relatively considerable and combined with a patent interventricular septum a difference in stroke volume may take place.

In the usual patent ductus the  $P_2$  is increased. Here it is rather weak. This is probably due to the fact that the valve is somewhat stenosed and prevents the slap-back from taking place.

To summarize, the syndrome of palindromic rheumatism in a patient having a congenital tetralogy possessing partial pulmonary valve stenosis with patent ductus Batelli, patent interventricular septum and right ventricular enlargement was here presented. This particular combination of congenital defects has not been found in heart textbooks.



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W. M. HARDY, M.D., Editor and Secretary

AUGUST, 1947

## EDITORIAL

80th Congress, 1st Session - - - - - House Report No. 786

### INVESTIGATION OF THE PARTICIPATION OF FEDERAL OFFICIALS IN THE FORMATION AND OPERATION OF HEALTH WORKSHOPS

#### THIRD INTERMEDIATE REPORT OF THE COMMITTEE ON EXPENDITURES IN THE EXECUTIVE DEPARTMENTS

#### INVESTIGATION OF THE PARTICIPATION OF FEDERAL OFFICIALS IN THE FORMATION AND OPERA- TION OF HEALTH WORKSHOPS

Hearings were held by the subcommittee appointed to make  
a study in connection with the investigation of publicity and  
propaganda of Federal officials in formation and operation of  
health workshops, pursuant to House Resolutions 90 and 197



JULY 2, 1947.—Submitted to the Committee of the Whole House  
on the State of the Union and ordered to be printed

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WASHINGTON : 1947

Write Your Congressman for a Copy of the Report  
Pictured Above

We are tempted to print this report in full. The deciding factor against such a course was that the convenient size of the original report will enable our readers to take it with them and show it to other interested persons.

And who is not interested?

Everyone should be more than interested in knowing that more than \$75,000,000 of taxpayers' money has been spent in one year by 45,000 Federal employees engaged, full or part time, in publicity and propaganda "to mobilize pressure groups in behalf of a national (health?) program for what certain witnesses and authors of propaganda refer to as socialized (or political) medicine."

To stimulate your writing your Congressman for your copy of "House Report No. 786" of the Eightieth Congress, first session, we quote a few interesting paragraphs. We have capitalized some words in these sections, hoping that the author of the report will not object to reproduction verbatim non litteratim.

#### Foreword

The Committee, after full consideration of the report as submitted by the subcommittee, upon motion duly made and seconded, unanimously approved and adopted the report as the report of the full Committee on Expenditures in the Executive Departments. The chairman was directed to transmit a copy of the report to the Speaker of the House of Representatives.

Your Committee reports to the House that, on the basis of hearings held on May 28 and June 18, 1947, it finds that at least SIX AGENCIES in the executive branch are using Government funds in an IMPROPER manner for propaganda activities SUPPORTING COMPULSORY NATIONAL HEALTH INSURANCE, or what certain witnesses and authors of propaganda refer to as SOCIALIZED MEDICINE, in the United States.

This report summarizes our hearings on this phase of the inquiry to date and presents the conclusions arrived at, following careful evaluation of the testimony and documentary evidence presented by, and relating to, the several Federal agencies involved.

The departments, bureaus, and agencies known to have participated in this campaign are:

1. The United States Public Health Service.
2. The Children's Bureau.
3. The Office of Education.
4. The United States Employment Service.
5. The Department of Agriculture.

## 6. Bureau of Research and Statistics, Social Security Board.

Your Committee finds that the USE OF FEDERAL FUNDS FOR THE PURPOSE OF INFLUENCING LEGISLATION before Congress is UNLAWFUL under section 201, title 18, of the United States Code. We have, therefore, brought these matters to the attention of the Department of Justice, with a request that the Attorney General at once initiate proceedings to stop this unauthorized and illegal expenditure of public moneys. A copy of the chairman's letter to the Attorney General is made a part of this interim report (exhibit 1).

Our exhibit 2, in this report, is a chart prepared by the Committee staff, showing the number of Federal agencies and the number of Federal payroll personnel participating in the so-called HEALTH WORKSHOPS arranged throughout the country during the last two years to mobilize PRESSURE GROUPS in behalf of a NATIONAL PROGRAM for what certain witnesses and authors of propaganda refer to as SOCIALIZED MEDICINE.

The latest figures available from the Budget Bureau show that for the fiscal year 1946 total expenditures in the executive branch for publicity and propaganda activities were \$75,000,000. During that fiscal year 45,000 Federal employees were engaged, full or part time, in such activities.

Our first report deals exclusively with activities calculated to build up an ARTIFICIAL, FEDERALLY STIMULATED DEMAND upon Congress for enactment of legislation for COMPULSORY HEALTH INSURANCE referred to by witnesses and publication as the Wagner-Murray-Dingell bill.

The extraordinary executive pressure exerted upon the staff of the UNITED STATES PUBLIC HEALTH SERVICE to further the campaign for what certain witnesses and authors of propaganda refer to as SOCIALIZED MEDICINE is indicated by a letter sent under date of December 10, 1945, by THOMAS PARRAN, Surgeon General of the UNITED STATES PUBLIC HEALTH SERVICE, to all field men and staff operatives throughout the country. This letter referred to the message sent to Congress on November 19, 1945, by President Truman, urging enactment of a national health program. The Surgeon General's letter referred to the President's message as "a subject of the highest importance to every citizen." His letter continues (hearing, May 28, 1947, page 88):

"THE APPROPRIATE EXECUTIVE AGENCIES OF THE GOVERNMENT HAVE BEEN SPECIFICALLY INSTRUCTED BY THE PRESIDENT TO ASSIST IN CARRYING OUT THIS LEGISLATIVE PROGRAM AS PRESENTED TO CONGRESS ON SEPTEMBER 6, 1945."

The Surgeon General then listed the several health bills pending before Congress, continuing:

"EVERY OFFICER OF THE PUBLIC HEALTH SERVICE WILL WISH TO FAMILIARIZE HIMSELF WITH THE PRESIDENT'S MESSAGE AND WILL BE GUIDED BY ITS PROVISIONS WHEN MAKING ANY PUBLIC STATEMENT LIKELY TO BE INTERPRETED AS REPRESENTING THE OFFICIAL VIEWS OF THE PUBLIC HEALTH SERVICE."

The second health workshop was held in Jamestown, North Dakota, September 27-30, 1946, with ninety-eight persons participating, eighteen of whom were FEDERAL EMPLOYEES, representing seven FEDERAL AGENCIES. The chairman of this meeting was Dr. Mayhew Derryberry, Ph.D., of the UNITED STATES PUBLIC HEALTH SERVICE. Apart from Federal personnel, there were NO DOCTORS OF MEDICINE in attendance at this meeting as delegates. The testimony before your committee indicates that no registered doctor of medicine was invited to participate.

All the evidence before your Committee indicates that these health workshops were PLANNED, CONDUCTED, AND LARGELY FINANCED with FEDERAL FUNDS, by a key group on the Government pay roll, who used the workshop method of discussion subtly to generate public sentiment in behalf of what certain witnesses and authors of propaganda refer to as SOCIALIZED MEDICINE. It is evident from the record that most of the planning was done by the FEDERAL OFFICIALS IN WASHINGTON prior to each workshop conference and that each meeting was devoted to their own purposes—that of organizing PRESSURE GROUPS TO AGITATE FOR COMPULSORY HEALTH INSURANCE, as then pending in Congress.

In the opinion of your Committee, this recital presents the complete picture of Government propaganda in action. THE FEDERAL EMPLOYEES ARRANGE THE MEETING, INVITE THE DELEGATES, TRAIN THE DELEGATES, PRESIDE AT THE MEETINGS, AND THEN FRAME THE FORMAL SUMMARY OF RESOLUTIONS AND ACTIONS.

Testimony before the Committee indicates also that the staff and resources of the BUREAU OF RESEARCH AND STATISTICS IN THE SOCIAL SECURITY BOARD were devoted freely, from time to time, to the PREPARATION OF PAMPHLETS AND PROPAGANDA LITERATURE FOR THE CIO, THE AFL, AND THE PHYSICIANS FORUM. Much of this material prepared for the CIO and other groups, by the Social Security Board at GOVERNMENT EXPENSE, supported what certain witnesses and authors of propaganda refer to as socialized medicine in every approach and dismissed contemptuously all arguments controverting the fixed position of the Social Security Board (hearing, page 170).

Your Committee CONCLUDES FROM THE TESTIMONY THAT MOST, IF NOT ALL, OF THIS LITERATURE, as distributed by the CIO, the AFL, the FARMERS' UNION, and the PHYSICIANS' FORUM originates in, and emanates from, the BUREAU OF RESEARCH AND STATISTICS IN THE SOCIAL SECURITY BOARD. MR. ISADORE FALK is DIRECTOR of the Division of Research and Statistics in the Social Security Board. His principal assistant, Miss Margaret Klem, was a witness before your committee on June 18. Miss Klem was identified as Chief of the Medical Economics Section of Mr. Falk's Division. She was one of the group of Federal employees who charted, arranged, and conducted the Jamestown Health Workshop. The testimony discloses also that SHE HELPED DRAFT THE WAGNER-MURRAY-DINGELL BILL.

Certain documentary evidence also has come to the attention of your Committee, that the BUREAU OF RESEARCH AND STATISTICS IN THE SOCIAL SECURITY BOARD also maintains close contact with movements for COMPULSORY HEALTH INSURANCE in other countries.

Under date of May 14, 1947, MR. ISADORE FALK, Director of the Bureau of Research and Statistics, sent a memorandum to the Acting Commissioner for Social Security, urging that one JACOB FISHER, a member of Mr. Falk's staff, be SENT TO NEW ZEALAND AT GOVERNMENT EXPENSE to study compulsory health-insurance programs and activities in that nation.

We find that this same JACOB FISHER has been documented by the House Committee on Un-American Activities for almost UNINTERRUPTED ASSOCIATION since 1939, with various COMMUNIST-FRONT and FELLOW TRAVELER ORGANIZATIONS in the United States. At various times, according to this record, JACOB FISHER HAS BEEN IDENTIFIED WITH SEVEN DIFFERENT GROUPS or ORGANIZATIONS AWOEDLY SPONSORING THE MOSCOW PARTY LINE IN THE UNITED STATES. He has published at least one report on health insurance in New Zealand in the Social Security Bulletin—a report which has been criticized by some reputable medical authorities as extremely biased.

In a later interim report on the propaganda activities within the SOCIAL SECURITY BOARD, we shall present to the Congress the detailed record of JACOB FISHER'S ACTIVITIES, as CERTIFIED to us BY THE COMMITTEE ON UN-AMERICAN ACTIVITIES, together with additional material bearing upon organized Communist agitation for what certain witnesses and authors of propaganda refer to as socialized medicine, through such agencies as the Southern Conference for Human Welfare.

Suffice it at this time for YOUR COMMITTEE TO REPORT ITS FIRM CONCLUSION, on the basis of the evidence at hand, THAT AMERICAN COMMUNISM HOLDS THIS PROGRAM AS A CARDINAL POINT IN ITS OBJECTIVES; and that, in some instances, KNOWN COMMUNISTS AND FELLOW TRAVELERS within the FEDERAL AGENCIES are at work diligently with FEDERAL FUNDS IN FURTHERANCE OF THE MOSCOW PARTY LINE IN THIS REGARD.

Approved:

FOREST A. HARNESS, *Chairman*;  
JAMES W. WADSWORTH;  
HENRY J. LATHAN;  
CARTER MANASCO;  
J. FRANK WILSON.

### HEALTH (?) LEGISLATION

As predicted, no action was taken on any of the numerous so-called health bills during the first session of the Eightieth Congress. Of course, there was considerable committee activity. "Many men of many minds" expressed their preference for certain sections and their objections to other provisions of various bills which were being considered.

By strange coincidence (?) witnesses favoring political medicine again outnumbered the witnesses representing the large medical organizations. Many of the proponents of political medicine were witnesses in former years. In fact, to one viewing these hearings from our distance, it seems that witnessing has become chronic in limited circles in Washington. The great advantage of this condition is that these old chronics can appear before the committee without any preparation other than pulling from their brief cases the testimony given any time during the last decade.

The hectic rush to recess for the summer caused the cancellation of two scheduled committee hearings. The talkfests will be resumed in January. At that time we are promised a history of the activities of one Isadore Falk, in behalf of political medicine during the last twenty years.



## POSTGRADUATE STUDY

Many inquiries have come to the state office as well as the postgraduate office as to when future Postgraduate Medical courses will be opened.

Physicians of Tennessee will be interested to know that your Committee has finally succeeded in securing an instructor. They feel extremely fortunate in securing the

ville, Virginia, Assistant Physician, Tuberculosis Service

*1938-1940*

National Research Council Fellowship, under the Committee on Drug Addiction

July and August, 1938

Conducted Survey of U. S. Public Health Service Hospital, Lexington, Kentucky, and University of Michigan Hospital and Department of Pharmacology, Ann Arbor, Michigan, for the U. S. Public Health Service and National Research Council

September, 1938-December 31, 1940

Pondville Hospital, Wrentham, Massachusetts

Clinical Research in Use of Morphine and Its Derivatives in Surgery (Cancer Patients)

January, 1939-December 31, 1940

Massachusetts General Hospital, Boston, Massachusetts, Graduate Assistant (Morphine and Its Derivatives in Surgery)

*1941*

January 1-June 30

Duke University Hospital, Durham, North Carolina, Assistant Resident in Obstetrics and Gynecology

July 1-December 31

Medical College of Virginia Hospital, Richmond, Virginia, Intern in Surgery

*1942*

National Research Council Fellowship renewed under former administration Churchill Hospital, Headington, Oxford, England, Orthopedics and Medicine

September, 1942-June 30, 1943

University of Michigan School of Medicine, Ann Arbor, Michigan, Associate in Surgery under Dr. Frederick A. Collier, also Associate in Pharmacology

*1943*

July 1 to date

University of Michigan School of Medicine, Ann Arbor, Michigan, Instructor in Surgery under Dr. Frederick A.



**Lyndon E. Lee, Jr., M.D.**

services of Dr. Lyndon E. Lee, Jr., of Ann Arbor, Michigan.

Dr. Lee completed his medical education at Duke University School of Medicine December 31, 1937. The following interesting biographical data is given: Date of birth, August 11, 1912.

*1938*

January 1-June 30

University of Virginia Hospital, Charlottesville, Virginia, Assistant in Cardiology

Blue Ridge Sanatorium, Charlottesville,

Coller, also Instructor in Pharmacology  
September to date

Consultant in Surgery at the Univer-  
sity of Michigan, Tumor Clinics

1945

March 1 to date

Ypsilanti State Hospital for Mental  
Diseases, Consulting Surgeon

In addition to the above information, it develops in the interview which the Committee had with Dr. Lee that he has already been doing in Michigan postgraduate lecturing out in various centers of the state in the past months in a program very much like the Postgraduate Program in Tennessee.

Dr. Lee possesses an excellent personality and an affable approach. He is enthusiastic, and to the Committee he appears to be a physician interested in teaching. It is the plan of the Committee to open instruction of the course by Dr. Lee on or about the first of September, 1947, in the Johnson City-Kingsport area. Announcements will be mailed out soon giving the course outline and the plan of conducting the clinical instruction.

## RAMBLING AROUND

By V. O. FOSTER  
Assistant Secretary

My itinerary for the period of July 21 to August 6 carried me to the eastern part of the State—many of whose citizens declare it to be the “garden spot of the universe.”

Due to the suspension of regular meetings by the Knoxville Academy on the fourth Tuesdays, contacts in Knoxville were limited to several members of the Academy.

### *Cocke County*

On July 24, a visit was paid to the jurisdiction of the Cocke County Medical Society and the town of Newport. Due to the absence of Dr. W. E. McGaha, Secretary of the Society, the regular meeting of the Society was called off. Newport physicians were particularly interested in the new laws governing the registration and licensing of physicians and hospitals. Introduc-

tions were given me to various civic leaders in Newport, including Editor Jack Shephard of the *Newport Times*, and hizzoner, the Mayor—none other than Dr. W. C. Ruble! (Drive more carefully, Mayor—no more broken arms, please!)

### *McMinn County*

July 28 and 29 found me in Athens for a called meeting of the McMinn County Medical Society. After informing the local Society of the services available to them and their community through the Tennessee State Medical Association, particularly press releases and radio programs, the President, Dr. Miles, will ask the Society to endorse and approve the program for local use at their next regular meeting.

### *Anderson-Campbell Counties*

July 31, I was the guest of the Anderson-Campbell Medical Society at a dinner meeting at LaFollette. Too bad I didn't know about the food—bought my dinner before going to the meeting! Dr. Kyle Copenhagen, Councilor, and Dr. R. B. Wood of Knoxville accompanied me to the Society. There was a bumper attendance, with Dr. Ed Newell, Sr., Dr. Ed Newell, Jr., and Dr. J. Marsh Frere of Chattanooga providing the scientific section of the program. Dr. Newell, Sr., gave an illustrated lecture on “Fractures”; Dr. Newell, Jr., read a paper on “Surgical Lesions of the Breast”; and Dr. Frere gave a case report on “Histoplasmosis.” Drs. Copenhagen and Wood extended greetings to the Society, and I discussed briefly my activities for the State Association.

### *Greene County*

August 4 found me on a beautiful drive up the fertile valley from Knoxville to Greeneville. On August 5, I had the opportunity and pleasure of addressing the Greeneville Rotary Club on the subject of “Socialized Medicine.” Honor guests of the Rotarians included Honorable Dayton Phillips, Congressman from the First District.

A called meeting of the Greene County Medical Society was held at 7:00 P.M. to give me an opportunity to outline a program of radio broadcasts and news releases which the local Society could sponsor. Also, at the request of Dr. Haskell Fox and Dr. R. B. Gibson, who attended the Rotary

Club, I gave the address, "Socialized Medicine," in order that the Society could know how the subject was treated before the Rotary Club. The Society unanimously endorsed the news release and radio programs and requested permission to schedule my address on Socialized Medicine on the programs of the Lions Club and the Exchange Club on my return to Greeneville in October.

During the trip through the eastern part of the State, eighteen newspaper editors were visited to thank them for carrying our regular weekly news release, "Healthful Living for Tennesseans," and to gather suggestions and criticisms for improving the health column. I was pleased to learn that every editor was high in his praise of the column. Also, arrangements were made to add three other radio stations to those that are carrying our regular programs over the State under the sponsorship of local medical societies as a public service.

## AND WE QUOTE

### PRECEPT AND PERFORMANCE

We have just addressed a very personal question to a caller. We asked him what his income tax was, and he said it was \$500 a year.

We then asked this caller how many tons of coal he used each year. He said eight.

So if the price of his coal should go up by one dollar a ton, his added cost of living would be eight dollars for the year. President Truman is very eager that the coal operators should not take this eight dollars from the man and in a statement Monday expressed such hope.

On the same day President Truman again let it be known that he would veto the tax bill which was to come to him from Congress. The tax bill would reduce our caller's income tax by \$100 a year.

It is very bad to charge people higher prices; that is inflation. But it seems there is an exception. The higher price of government is deflation.

Along with his plea to coal operators, Mr. Truman said he hoped that steel men would not raise prices. The price of steel

is about thirty-three per cent above its prewar figure. Lately the steel men have raised the wages of their own employees by a sizable amount without raising their prices. Now their coal is to cost more, but again they are put under pressure not to raise prices.

The cost of government is already several hundred per cent above prewar. But the very people who are managing government and who in the main are resisting any cuts in the price of government are now advising the steel men and the coal men that they must not increase their prices.

And see how the law of supply and demand is working. People want more steel and things made of steel, and they want all the coal that can be mined. But there is no doubt in the world that they want less government.—*Wall Street Journal*, July 15, 1947.

### A WIDER HORIZON FOR THE GENERAL PRACTITIONER

One of the laments most frequently voiced by the public and echoed, when it seems judicious to do so, by the medical profession, is, *What is to become of the general practitioner?* Well, what is?

We are all familiar with the complaints about the undue rise of specialists, about the lengths to which specialism has been allowed to progress—or, should we say, to which the practice of medicine has been allowed to slump?

If parts of this editorial seem faintly personal, we are sorry, but we do not apologize, because personal experience, honestly related, is the only basis for true history from which pertinent conclusions may be drawn.

In the first place, what is a hospital? The general practitioner would probably reply that it was an institution he couldn't get his patients into. We think his reply would be fairly correct and propose to examine the reasons why this is so.

Thirty-five years ago the hospital was an institution with a big name, staffed by the professors in our medical schools, in which internships under professors of the greatest reputation were eagerly sought by such



medical students as could afford to take them. Many of us could not.

For the fortunate ones who could, the hospital offered ample clinical material where the art of caring for the sick was taught by the most experienced teachers. Neither the instructors nor the pupils were paid. Both basked in an atmosphere of altruism that was wonderful—if you could afford it. At the end of two years interns would emerge from the hospital with a considerable reputation; they had succeeded not only in getting into the institution but in getting out of it. Many of them then coasted into success upon the coattails of their preceptors. They were known to an awestruck circle of contemporaries, not only as graduates of a certain hospital, but also as “the best surgical assistant Dr. Blank had had in years.” Thus they frequently were introduced into fashionable practice and were so well rewarded financially that when their predecessors died they were able to step into their shoes. It was an excellent arrangement—for a few. And, let us emphasize again, for the few who could afford it.

In the meantime, what happened to those who could not? They went into general practice. Their patients were not as a rule anxious to go to hospitals and preferred to be cared for at home. Under such conditions the general practitioner did fairly well. When a patient became obviously desperately ill, he would be sent to the hospital, there to be operated on by a brilliant classmate who had a hospital appointment. Sometimes the brilliant classmate would be so touched by the shabby appearance of his less fortunate brother, who had referred the case to him, that he would share with him a portion of the substantial fee received from the patient. Sometimes the less fortunate brother would spread the tale of the charitably-minded surgeon and other general practitioners would refer cases to him in the hope of encountering similar financial justice. Thus arose the heinous practice now slightly referred to as “fee-splitting.” We do think it a heinous practice, because it results in patients being referred not to the best, but to the most, shall we say, generous surgeon. But we

think it only fair to point out the genesis of the custom.

Then came the advent of the so-called “teaching hospitals,” staffed by cloistered graduates who often never had engaged in the private practice of medicine. After their internships they had stayed on and on as residents, and after they had become sufficiently expert were frequently drafted by other institutions to become full-time professors of surgery or medicine. As scientists they are wonderful, but they have small comprehension of, or sympathy with, the problems of the general practitioner.

And during this time, the public has become more and more hospital conscious. It wants to go to the hospital for the mildest stomach ache or sore throat. And with the spread of voluntary hospital insurance it can afford to do so.

Naturally the Blue Cross is anxious—for its own sake—that its clients patronize only the hospitals with the best staffs, in which a patient's stay is likely to be as brief as possible.

Trustees of voluntary hospitals will tell you, with tears in their eyes, that, as trustees of charitable funds they must assure the spending of those funds for providing the best closed staffs possible. That sounds perfectly reasonable until you examine more closely and find the number of voluntary hospitals that allow themselves to be victimized by admitting compensation cases at rates less than the hospitals pay for the care of charity cases, cases for whose care they were originally founded.<sup>1</sup> One would think that worldly-minded trustees would not allow themselves to be so bamboozled either by state compensation boards or by insurance companies. Perhaps this is slightly beside the point, but it all goes to show how much farther and farther away the general practitioner is being pushed from the best facilities for, and contact with, the latest developments of scientific medicine.

It is always easier to point out the defects of a system than it is to propose a remedy. Some of our municipal hospitals

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<sup>1</sup>New England Journal of Medicine, Vol. 236, page 491, March 27, 1947.

are now staffed by members of the faculties of various universities, thus assuring the indigent the same degree of skillful care as that available to the rich who can afford to pay for it. That sounds well on the face of it, until we see that it is more and more narrowing the field to the general practitioner.

Suppose that the general practitioner were allowed to take his patient under voluntary hospital insurance to a municipal hospital. Suppose that he were kept in charge of the patient from the beginning of his illness to the end. We think there would be a considerable resurgence of that spirit which resolves to shoulder personal responsibility and see the patient through. We are confident that there are still enough generous practitioners of medicine of the highest reputation who would be willing to help out their less fortunate colleagues in the matter of hospital appointments, with problems that to them seem insoluble.

Suppose that under such a system the patient gets well. The father says: "I never thought so much of Dr. Smith. I grew up with him, and we lived in the same block. But when my kid got polio, Smith was the only man I could get, and he took care of him. He took him to the Municipal Hospital. He saw him every day. He seemed to be doing all right, but Smith wasn't quite satisfied and called in Dr. Jones. He's the greatest authority on polio in these parts. I don't know whether my kid's going to get completely well, but I do know that he's had the best of care, and for money that I couldn't afford to pay, and I've paid it. No matter what happens in my family from now on, Smith's the man for me."

Dr. Jones says: "I never heard of that man Smith before. But he called me in consultation to see a case of polio he had in the hospital, and he'd done everything all right. There was only one thing I could suggest, and if I hadn't been there, I guess he would have thought of it himself. I didn't get much of a fee, but I got something, and under the old system I wouldn't have been paid a cent."

Dr. Smith says: "I got called in on a case of polio the other night. I wasn't sure at

first what the trouble was, but the next day I got the kid into the Municipal Hospital. The third day I called in Dr. Jones. You know, he's got all hell of a reputation, but he wasn't a bit the kind of stuffed shirt I thought he'd be. His fee was only ten dollars, but he said that in the old days he would have had to see the kid anyway and wouldn't have been paid anything. It was all right with him. And he's all right with me."

And so what have you? Three satisfied people. A considerable cementing of the bonds that should be holding the medical profession together. Solidarity instead of disagreement. Sickness paid for without hardship.

It may sound like a dream, but it is one that the medical profession, hospital trustees, municipal governments, and the general public would do well to make come true.—*Reprinted from the New York State Journal of Medicine, July 1, 1947.*

## NEWS NOTES AND COMMENTS

### CHANGE OF ADDRESS

Dr. James C. Nash, Memphis, to 201 South Side Sunset Avenue, Huntsville, Alabama.

Dr. Ralph G. Nichols, Memphis, to 521 West Cumberland, Knoxville.

Dr. H. L. Gilliland, Mobile, Alabama, to Brownsville, Tennessee.

Dr. Henry W. Crouch, Veterans Administration, Mountain Home, to Veterans Administration Regional Office, White Bridge Road, Nashville.

Dr. H. H. Ring, Nashville, to Box 23, Waycross, Georgia.

### DOCTORS WANTED

There are a number of attractive positions open in the State Department of Public Health and in local health departments throughout the State, depending upon training and experience. Salaries will range from \$3,960 to \$7,200. Any inter-

ested physician is invited to get in contact with the nearest local health department or with the State Department of Public Health.

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#### PHYSICIANS WANTED

Middle aged competent physicians and surgeon for place in a large industrial plant in Florida. Salary is good and employment permanent.

For further particulars, write The Tennessee State Medical Association, 510 Doctors Building, Nashville 3, Tennessee.

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The forty-eighth annual meeting of the American Roentgen Ray Society will be held at Haddon Hall in Atlantic City, September 16-19, 1947.

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The Officers and Fellows of the Southern Psychiatric Association announce that their annual meeting will be held in Birmingham, Alabama, on October 13 and 14, 1947.

For further information, write Dr. Newdigate M. Owensby, Secretary-Treasurer, Medical Arts Building, Atlanta, Georgia.

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T. C. Davison, M.D., Atlanta, Georgia, Corresponding Secretary, announces that the next meeting of the American Association for the Study of Goiter will be held in the King Edward Hotel, Toronto, Canada, on May 6, 7, and 8, 1948.

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The American Congress of Physical Medicine will hold its twenty-fifth annual scientific and clinical session September 2, 3, 4, 5, and 6, inclusive, at the Hotel Radisson, Minneapolis.

For information concerning the convention and the instruction course, address the American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

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The American College of Chest Physicians is sponsoring a second annual post-graduate course in diseases of the chest to be held during the week of September 15-20, 1947, at the Municipal Tuberculosis Sanitarium, Chicago, Illinois.

Further information may be secured at the office of the American College of Chest

Physicians, 500 North Dearborn Street, Chicago 10, Illinois.

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The thirty-third annual Clinical Congress of the American College of Surgeons, including the twenty-sixth annual Hospital Standardization Conference, will be held at the Waldorf-Astoria, New York, from September 8 to 12.

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#### THE MEDICAL PRACTICE ACT

Dear Dr. Hardy:

I have had many calls in connection with the type of sign the Doctor of Medicine is required by law to exhibit at or near the entrance to his office, and it occurs to me that an announcement in the JOURNAL may clear up some of this confusion.

The State law requires that a Doctor of Medicine list his name and immediately following his name, his degree, if any. Below his name he is required to list his profession in one of three different ways: "Medicine," "Surgery," or "Medicine and Surgery." Any one of these three listings is satisfactory and permits the licensee to engage in an unlimited practice of medicine and surgery.

The above is all that is required by law, and that much must be included.

It is the opinion of the Board that legitimate specialists can list their specialty without violating the act; for example, having complied with the above, a Pediatrician could include also on his sign, "Pediatrics" or "Practice Limited to Pediatrics." The same is true for other practicing specialists or Board members.

The sign must be one inch in height. The Board has ruled that they cannot be greater than three inches, and the sign is not optional, it must be posted.

Our attention is being called to the fact that the law is not being complied with, and we wish to call to the attention of the physicians that the law is going to be enforced. The cooperation of the members of the



medical profession will be appreciated by the Board.

Sincerely yours,

R. H. HUTCHESON, *Executive Officer,*  
*Licensing Board for the Healing Arts.*

Laurence A. Grossman, M.D., announces the opening of his office for the practice of internal medicine at 412 Doctors Building, Nashville.

Ralph G. Nichols, M.D., announces the opening of temporary offices at 521 West Cumberland Avenue, Knoxville. Practice limited to Internal Medicine.

RESEARCH FELLOWSHIPS—THE AMERICAN  
COLLEGE OF PHYSICIANS

The American College of Physicians announces that a limited number of Fellowships in Medicine will be available from July 1, 1948 to June 30, 1949. These Fellowships are designed to provide an opportunity for research training either in the basic medical sciences or in the application of these sciences to clinical investigation. They are for the benefit of physicians who are in the early stages of their preparation for a teaching and investigative career in Internal Medicine. Assurance must be provided that the applicant will be acceptable in the laboratory or clinic of his choice and that he will be provided with the facilities necessary for the proper pursuit of his work.

The stipend will be from \$2,200 to \$3,000.

Application forms will be supplied on request to The American College of Physicians, 4200 Pine Street, Philadelphia 4, Pennsylvania, and must be submitted in duplicate not later than November 1, 1947. Announcement of the awards will be made as promptly as is possible.

The American College of Physicians will conduct its Twenty-Ninth Annual Session at San Francisco, April 19-23, 1948. General Headquarters will be at the Civic Auditorium. Dr. William J. Kerr and Dr. Ernest H. Falconer, both of San Francisco, are the Co-Chairmen for local arrangements and the program of clinics and panel discussions. The President of the College,

Dr. Hugh J. Morgan, Professor of Medicine at Vanderbilt University School of Medicine, Nashville, Tennessee, is in charge of the program of morning lectures and afternoon general sessions.

## WOMAN'S AUXILIARY

Dear Auxiliary Members:

This is the first opportunity I have had as your President to send greetings and to tell you how pleased I am over the honor you have bestowed upon me in electing me to this high office.

It is needless to tell you that I feel keenly this responsibility, and it is my desire to put the work of the Auxiliary in first place during the ensuing year.

Having felt the glow of the friendship and enthusiasm of the members at the post-convention board meeting at the April meeting in Memphis, I feel sure that our women are eager to make this a year of outstanding accomplishments. There is much to be done, and the time is slipping by; so let us be doing what we can this summer and be on hand one hundred per cent at the September Board meeting in Nashville, so that we may start with zeal and vigor.

Recently returning from the National Auxiliary meeting in Atlantic City, I am full of inspiration and new ideas concerning our work this year.

One of the main objectives in all the states where there are Medical Auxiliaries is to put our shoulder to the wheel in helping with the Nurses' Recruitment Program. You will be informed about that in your County Auxiliaries.

All members are earnestly requested to support with their attendance and enthusiasm the Auxiliary meetings and to be willing to aid in the fine work they are doing. The old saying is still good that "WE GET OUT OF ANYTHING JUST WHAT WE PUT INTO IT." So if we are lukewarm in our interest, let us look to ourselves for the reason.

Let us make as our goal this year, "EVERY DOCTOR'S WIFE AN AUXILIARY

MEMBER, EVERY COUNTY ORGANIZED." That may seem to be an impossible task, but with all working and pulling together *IT CAN BE DONE*.

To the vice-president who organizes and reorganizes the most Auxiliaries in her section, a prize will be given at the State meeting in 1948.

I wish to express my appreciation and that of the Auxiliary to the STATE MEDICAL JOURNAL for the page given the Auxiliary members each month.

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"Changing Concepts of Neoplastic Diseases," by Dr. Bruce H. Sisler, Chief Medical Officer, Veterans Administration.

## ABSTRACTS OF CURRENT LITERATURE

### ANESTHESIA

By H. M. AUSERMAN, M.D.  
Medical Arts Building, Chattanooga

John Snow, M.D., Anesthetist. *Journal Historical Medicine and Allied Sciences*. Vol. 1, pp. 551-556, October, 1946.

John Snow was the first physician anesthetist. Snow is remembered by some members of the medical profession for his investigations of cholera. His first medical paper, which he read in 1841, was on the subject of asphyxia and the resuscitation of stillborn children. Snow's monograph on ether was published in September, 1847. In the monograph he first published his observations on the stages or degrees of anesthesia. He divided the signs into four well-known stages which are still recognized. In 1858, in his book on anesthesia, he described a fifth stage, intercostal paralysis. Snow developed anesthetic apparatus and was positive in his opinion as to the desirability of administering anesthetics by exact methods. He warned of the dangers of chloroform. The acceptance by Queen Victoria of chloroform analgesia assured its continued use in obstetrics. Snow made important observations on the use of chloroform and repeatedly warned of its dangers. After his death, his monograph, "On Chloroform and Other Anaes-

thetics: Their Action and Administration," was published. Snow searched for the perfect anesthetic, investigating many possibilities. Modern anesthesia owes a debt to John Snow, who was an indefatigable worker, a scientist of no mean ability, and a searcher for the ultimate truths.

### CARDIOLOGY

By J. ALLEN KENNEDY, M.D.  
Bennie-Dillon Building, Nashville

Tobacco Angina: An Electrocardiographic Study. J. Marion Bryant, Ann Arbor, Michigan, and J. Edwin Wood, Jr., Charlottesville, Virginia. *American Heart Journal*, Vol. 34, No. 1, pp. 20-34, July, 1947.

The authors report sixteen patients with coronary artery disease, of whom two patients had angina pectoris after smoking cigarettes. In all sixteen patients, experiments were done under uniform conditions, electrocardiograms were taken before, during, and after the patient smoked two cigarettes of whatever brand he was accustomed to smoke. The most frequent response of all patients was an increase in heart rate averaging ten beats per minute. Minor electrocardiographic changes occurred in about half the patients. The two patients who experienced angina pectoris on smoking are reported in some detail with their electrocardiographic findings.

One was a sixty-eight-year-old physician who was in the habit of using two packages of cigarettes daily and who was having precordial pain with radiation into the neck, jaws, and shoulders, which sometimes appeared with exertion but frequently appeared at other times also. Smoking a cigarette produced a prompt attack of pain. Electrocardiograms taken during the pain are reproduced and are interpreted as showing anoxic changes. After ceasing all smoking, he had no more attacks of chest pain.

The second patient was a sixty-two-year-old conductor who had a typical history of angina pectoris. On smoking he experienced a severe attack of pain lasting for ten minutes. Electrocardiograms taken during pain showed signs of anoxemia (they are reproduced).

The authors conclude that it is possible the use of tobacco plays a more important role in coronary disease than has been realized in the past.

Effects of Intravenous Injection of Nicotine on the Circulation: In Normal Persons and in Patients with Cardiovascular Disease. Margaret N. Boyle, Rene Wegria, Richard T. Cathcart, John L. Nickerson, and Robert L. Levy, New York, New York. *American Heart Journal*, Vol. 34, No. 1, pp. 65-79, July, 1947.

Observations were made on forty-six subjects. Of these, eighteen were normal persons, of whom eleven were smokers and seven nonsmokers, and twenty-four patients with coronary heart disease, of whom seventeen were smokers and seven non-



smokers. There were, in addition, four patients with peripheral vascular disease. The drug used was nicotine bitartrate used in a dosage of two milligrams, which contains approximately six-tenths milligram of nicotine alkaloid, and was administered intravenously. The responses to this injection are tabulated in some detail. In general, there was an increase in the heart rate, systolic and diastolic blood pressures, cardiac output in all three groups of subjects.

Electrocardiograms showed no significant change in any of the normal individuals, although slight changes were found in seven. In the patients with coronary heart disease there was no change in eighteen, slight change in three, and a significant change in three. In those with peripheral vascular disease there was no change or slight change in three, significant change in one, who also had coronary heart disease.

Anginal pain occurred in two of the patients in the coronary group in whom significant alterations in the electrocardiogram also occurred.

The authors conclude that individual differences in sensitivity to nicotine were evident. In some patients with coronary heart disease the injection of nicotine induces a state of coronary insufficiency which may be the result of constricting the coronary arteries or of increasing the work of the heart, probably both.

## DERMATOLOGY

By CLARENCE SHAW, M.D.  
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Chattanooga 2

Penicillin in Treatment of Diphtheria. M. N. De, J. R. Chatterjee, and L. Ganguli, *British Medical Journal*, Vol. 1, p. 376, March 22, 1947.

Twenty-seven cases of diphtheria recovered without complications after being treated with penicillin alone. The temperature was normal within three days. The throat swabs became negative within three to seven days, and the patches disappeared within two to five days.

Arsenical Encephalopathy. G. Hipps and R. Goldberg, *British Medical Journal*, Vol. 1, p. 296, March 8, 1947.

The author reports a case of arsenical encephalopathy in a twenty-year-old congenital syphilitic with interstitial keratitis and iridocyclitis who was being treated with penicillin and nearsphenamine. Treatment on the postural basis of Ransome was instituted but did not succeed in saving the patient's life.

Basal-Cell Carcinoma at Trauma Site. T. G. Reah, *British Medical Journal*, Vol. 1, p. 412, March 29, 1947.

The case reported suggests the development of a basal-cell carcinoma immediately after the super-

ficial cannon shell wound. The thirty-one-year-old soldier was struck on the right temple by a shell fragment in November, 1942, which resulted in a superficial abrasion about one centimeter in diameter. This abrasion did not heal, and in August, 1943, a spicule of metal about five-tenths centimeter long was removed just above the site of the abrasion. The puncture hole also did not heal, and thereafter both this lesion and the original abrasion slowly increased in size and bled freely. A biopsy of the upper lesion showed a typical basal-cell carcinoma.

## GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.  
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The Causes of Death in Cancer of the Cervix Uteri. Russell R. DeAlvarez, M.S., M.D., Portland, Oregon. *American Journal of Obstetrics and Gynecology*, Vol. 54, No. 1, pp. 91-96, July, 1947.

Year after year cancer has been responsible for more and more deaths until, in most states, it ranks among the first three causes of death. In approximately twenty-five per cent of the women dying from this disease, the lesion is located in the female genital tract, with the cervix as the primary site of the neoplasm in sixty-five per cent. Unlike most fatal diseases, carcinoma of the cervix per se is rarely the immediate cause of death, most deaths in these cases being due to changes secondary to the original neoplasm. Because very little has been written on this subject and in order to determine just what these causes are, a study was made of the records of fifty-five patients dying with cancer of the cervix at the University of Michigan Hospital during the past ten years. Complete autopsies, with microscopic examination of all tissues and glands, form the basis of this report. The most prominent initial symptom among these women had been vaginal bleeding, starting as intermenstrual or postcoital spotting, but gradually progressed in severity. Bleeding persisted and increased to be classed as actual hemorrhage in seventy-one per cent. Only two patients had no vaginal bleeding. Pain, as a primary complaint, was relatively infrequent, but when it was present, it usually occurred in patients in whom the disease was very far advanced. In spreading from the cervix, carcinoma progresses through the lymphatic tributaries which drain the pelvic organs back into the general lymphatic circulation and attack or involve any organ in its path of spread. It is due to involvement and invasion in as well as growth in these paths of spread that patients die as the result of carcinoma of the cervix and not from the local primary neoplasm, except in the rare case of hemorrhage. Therefore, radium and X-ray therapy in cervix cancer should be directed toward controlling not only the local site, but also to the sites to which the neoplasm will first spread. Gynecologists and



roentgenologists today are not concerned alone with the destruction of the primary site, but also seek to prevent its spread and invasion. For this reason clinical examination of all patients with carcinoma of the cervix should include a complete physical examination, pelvic examination, rectal and urologic examination. Satisfactory evidence of extension beyond the cervix cannot be elicited without rectal examination. These clinical procedures should be supplemented by routine X-ray study of the chest and bony structures whenever indicated. Ureteral obstruction (forty per cent), pulmonary causes (thirty-one per cent), and gastro-intestinal causes (thirteen per cent) account for the majority of deaths among patients with cervix carcinoma. Nephrostomy, cutaneous ureterostomy, palliative colostomy, and shunting bowel anastomoses may not only lengthen life, but may also be lifesaving measures. While nephrostomy and ureterostomy have not yet reached perfection, their continued and more frequent use may lead to improved technique. Every positive therapeutic measure to control these causes of death must be instituted early to further lower a mortality rate that has already been significantly reduced.

### OBSTETRICS

By MILTON SMITH LEWIS, M.D.  
Bennie-Dillon Building, Nashville

Late Post Partum Hemorrhage. S. A. Wolfe and P. Pedowitz. *American Journal of Obstetrics and Gynecology*, Vol. 53, pp. 84-99, 1947.

In this paper, late post partum hemorrhage indicates prolonged or excessive uterine bleeding beginning after the first day following delivery. The writers deal with late post partum hemorrhage due to: (1) retained placental fragments; (2) uterine abnormalities in retention and separation of the decidua vera.

Retention of placental fragments is the most frequent cause of late post partum hemorrhage. At the Brooklyn Jewish Hospital there were thirty-two such cases after 32,155 deliveries, an incidence of one to 1,005 cases. Five additional cases confined in other hospitals are added, making a total of thirty-seven cases in this group encountered between January 1, 1934, and September 1, 1944. Spontaneous expulsion may occur (four cases), but more commonly operative removal followed one or more episodes of bleeding (thirty-one cases). Enmeshment or polyp formation occurred in two cases.

The clinical findings in cases of retained placental fragments requiring surgical intervention were not sufficient for diagnosis. Digital exploration of the uterus is the only sure method of diagnosis. Most commonly, abnormal vaginal bleeding appeared between the sixth and tenth post partum days. Shock (systolic blood pressure below one hundred, pulse above one hundred, pallor, cold skin) in varying degrees was present in fourteen

of twenty-four afebrile cases. All uteri were noted as subinvolved. Since a patulous cervix is a normal finding up to the twelfth post partum day, the value of a patent cervix as a diagnostic aid applies only to later cases. Seven patients were febrile, and the symptomatology was essentially the same as in the afebrile group. However, the onset of bleeding occurred somewhat later in the febrile group; in only two of the seven cases did the initial bleeding episode occur before the tenth day. Five of the seven cases exhibited mild to severe shock. The finding of a patulous cervix in infected cases is of some diagnostic import, since bleeding more frequently occurs after the twelfth day.

The clinical manifestations of placental polyp and the physical findings are essentially similar to those of retained placental fragments. Bleeding is more prolonged, or presents recurrent episodes of varied severity. The two cases which occurred in this series are briefly summarized.

In general, medical therapy (ergotrate or pituitrin and bed rest) proved unsatisfactory in this series of cases. Surgical removal of the retained placental fragments is the treatment of choice. Separation by finger (curette) is the preferred method. If unsuccessful, the use of the curette or ovum forceps is safe. In the preoperative afebrile group of cases (twenty-four), eighteen had a normal postoperative course, while six were febrile. In the preoperative febrile group of seven cases, two were afebrile following operation, and five continued to have temperature. The prophylactic use of sulfonamides and penicillin is indicated preoperatively and postoperatively, and is imperative in the febrile group.

In the absence of placental fragments, late post partum hemorrhage is rare. Two uterine factors present as causes: (1) late detachment of thrombi at the placental site with reopening of vascular sinuses and bleeding; and (2) abnormalities in the retention and separation of the decidua vera. In the second group, late post partum hemorrhage is of mild type, and if unrecognized, curettage may be avoided.

Digital exploration of the uterine cavity is the first step in the treatment of late post partum hemorrhage. Only by this method can a retained placental fragment be discovered and then removed. If no placental fragment is present, non-involution of the placental site or separation of excessive amounts of decidual slough are the causative factors of the bleeding.

### OPHTHALMOLOGY

By ROBERT J. WARNER, M.D.  
Doctors Building, Nashville

Cataract Due to Low Blood Calcium and Its Medical Treatment. R. Weekers, *Archives of Ophthalmology*, June, 1947.

The author reviews experimental and clinical facts related to the development of cataract associated with low blood calcium. Nine cases are then reported, seven of which followed thyroidectomy, evidently with inclusion of the parathyroid glands. Two cases followed idiopathic tetany. He believes that in cases following parathyroidectomy cataract may be prevented by the administration of vitamin D or a preparation known as dihydro-tachysterol, together with calcium salts. Early lenticular changes may even be made to regress by this means.

An Operation for Posterior Route Extraction of Intra-ocular Foreign Bodies. L. B. Somerville-Large, Archives of Ophthalmology, June, 1947.

The operation is described in detail. The essential features are summarized as follows: An ample conjunctival flap is cut from before backward and the episclera completely removed from the trephine site. The sclera over the area that is estimated as nearest the foreign body is trephined with a 1.5 millimeter trephine. The base of the disk is dissected from the choroid. The choroid is then coagulated through the trephine hole, with the sharp point of the diathermy apparatus. The tip of the 1.5 millimeter point of the magnet is made to enter the hole. The following advantages are claimed for the trephine operation: (1) apposition of a powerful magnet point as near the foreign body as is compatible with safety; (2) production of a minimum choroidal scar; (3) absence of post-operative hemorrhages in the fundus and opacities in the vitreous.

## ROENTGENOLOGY

By J. MARSH FRERE, M.D.  
Newell & Newell Sanitarium, Chattanooga

Bronchogenic Carcinoma: An Analysis of 343 Cases. R. K. Hollingsworth, M.D., *Annals of Internal Medicine*, Vol. 26, pp. 377-385, 1947.

This is an analysis of 231 proved cases of bronchogenic carcinoma and 112 clinically positive cases in which histologic confirmation was lacking. Only the 231 proved cases are analyzed in detail. Of this number, only seventy-seven were considered operable, and in only forty-three of this operable group was resection possible. The analysis confirms: (1) That the increased incidence of bronchogenic carcinoma is both relative and absolute. (2) Bronchogenic carcinoma occurs more often in males; seventy to ninety per cent of all the cases were in males. (3) It is essentially a disease of advanced age. The majority of cases occurring between forty and sixty years of age. In this group, the youngest was eighteen, the oldest seventy-seven years of age. (4) Age, per se, has no effect on operability. (5) Bronchogenic carcinoma is not an occupational disease.

Dr. Hollingsworth notes that the conception of the pathology of pulmonary carcinoma has changed materially in the past decade. The right lung was found involved in 59.2 per cent of the cases. Two main types of growth are recognized according to location—those, the majority, which occur in the hilus and those originating in the periphery. Spread is by direct extension and by lymphogenous and hematogenous metastasis. The most frequent sites of metastasis, in order of frequency, were regional lymph nodes, both lungs, pleura, supra-clavicular nodes, recurrent laryngeal nerve, at or above the main tracheal carina, brain, bone, liver, and skin. Bronchogenic carcinomata are classified into the squamous cell (the most frequent and offers the best prognosis), the adenocarcinoma, and the undifferentiated types. The last includes the small cell, the round cell, and the oat cell forms, and these had the poorest prognosis.

Clinically, bronchogenic carcinoma is relatively slow growing. The author stresses the importance of early diagnosis and treatment. In over half of the cases a positive diagnosis was not made until nine or more months after the onset of symptoms. The most frequent initial symptoms were found to be, in order of frequency, cough, pneumonia or "flu," chest pain, hemoptysis, dyspnea, and ease of fatigue. Loss of weight was found as a late manifestation.

Diagnosis is based upon the history, physical findings, fluoroscopic and radiographic examination, and, most important, bronchoscopy and biopsy. Punch or aspiration biopsy is considered potentially dangerous and is not recommended. "Finally, if all other means fail to establish a positive diagnosis and roentgenological evidence is sufficiently strong, there being no obvious metastatic lesions or other contraindications, exploratory thoracotomy should be done. It is a relatively safe procedure and carries a low mortality and morbidity rate. The average stay in the hospital is less than two weeks, comparable to exploratory laparotomy. Direct examination by both palpation and inspection is possible, and tissue can be removed for frozen section diagnosis if necessary. Since early resection is the only hope of cure, the slight risk of the thoracotomy is not to be compared with the hazard of waiting for a positive diagnosis which may only come in the form of a hopeless metastatic lesion."

Although it is obvious that a positive diagnosis cannot be made by X-ray alone, the findings correctly interpreted give a high incidence of correct diagnosis. In addition to noting the presence of a lesion and its location, widening of the mediastinum, retraction and diaphragmatic movement should be determined. Tuberculosis, bronchiectosis, and lung abscess are difficult differential problems at times.

The only curative treatment of bronchogenic carcinoma known is "complete removal of the cancerous tissue, together with all involved or sus-



picious mediastinal lymph nodes." For this purpose total pneumonectomy rather than lobectomy is recommended. The author condemns roentgen-therapy except for palliative reasons in inoperable or nonresectable cases.

Present operative mortality is from five to twenty per cent.

## BOOK REVIEW

A History of the American Medical Association, 1847-1947. By Morris Fishbein, M.D., with the Biographies of the Presidents of the Association by Walter L. Bierring, M.D., and with Histories of the Publications, Councils, Bureaus, and Other Official Bodies. 1,226 pages. Philadelphia and London: W. B. Saunders Company, 1947. Price, \$10.00.

"The Board of Trustees of the American Medical Association offers this volume as a record of its founder, its founding, its ideals, and its motivations, and the extent to which these have been accomplished over a period of one hundred years. The publication has been authorized by the Board of Trustees of the Association as a feature of the Centennial Celebration in 1947."

This paragraph from the Introduction, signed by the members of the Board of Trustees, is ample assurance of the contents of the volume.

The life of Nathan Smith Davis, M.D., 1817-

1904, written by Nathan Smith Davis III, M.D., is the first chapter of the book. The following five hundred fifty pages traces the history of the Association from the first meeting of "almost two hundred fifty delegates from forty Medical Societies and twenty-eight Medical Colleges in twenty-eight States to the Centennial meeting where more than 15,000 physicians were present in 1947."

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About two hundred fifty pages are written by Walter L. Bierring, M.D., on the Biographies of the Presidents of the Association.

Twenty-one Councils, Bureaus, Committees, Sections, and the Auxiliary are discussed by various authors.

The Histories of the thirteen publications of the Association are recorded by well-qualified authors.

We hope that this brief outline of the volume will cause our members to secure the book and read it carefully. While we physicians believe we have the greatest profession in the world, a work of this kind will increase the reason for the faith that is in us and stimulate us to still greater usefulness.

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 A. H. Lancaster, M.D., Knoxville (1950)

## NATIONAL LEGISLATIVE

N. S. Shofner, M.D., Chairman, Nashville  
 John B. Steele, M.D., Chattanooga  
 T. R. Ray, M.D., Shelbyville  
 H. B. Everett, M.D., Memphis  
 E. R. Zemp, M.D., Knoxville  
 Franklin B. Bogart, M.D., *ex officio*, Chattanooga  
 W. M. Hardy, M.D., *ex officio*, Nashville

## PUBLIC POLICY AND LEGISLATION

N. S. Shofner, M.D., Chairman, Nashville  
 Webb B. Key, M.D., Memphis (1950)  
 Frank Harris, M.D., Chattanooga (1949)  
 T. R. Ray, M.D., Shelbyville (1949)  
 M. S. Roberts, M.D., Knoxville (1948)  
 Franklin B. Bogart, M.D., *ex officio*, Chattanooga  
 W. M. Hardy, M.D., *ex officio*, Nashville

## LIAISON

Joel J. Hobson, M.D., Memphis (1952)  
 Carl E. Adams, M.D., Woodbury (1951)  
 Kyle C. Copenhaver, M.D., Knoxville (1950)  
 E. Dunbar Newell, M.D., Chattanooga (1949)  
 J. O. Manier, M.D., Nashville (1948)

## INSURANCE

H. B. Gotten, M.D., Chairman, Memphis (1950)  
 Kyle C. Copenhaver, M.D., Knoxville (1949)  
 C. M. Hamilton, M.D., Nashville (1948)

## MEDICAL EDUCATION

W. C. Chaney, M.D., Chairman, Memphis (1948)  
 R. B. Wood, M.D., Knoxville (1950)  
 C. H. Sanford, M.D., Memphis (1950)  
 R. C. Robertson, M.D., Chattanooga (1949)  
 D. C. Seward, M.D., Nashville (1949)  
 John M. Lee, M.D., Nashville (1948)

## MEMOIRS

Charles R. Henry, M.D., Chairman, Chattanooga (1950)  
 D. W. Hailey, M.D., Nashville (1950)  
 J. L. Hankins, M.D., Johnson City (1949)  
 J. C. Pearce, M.D., Jackson (1949)

## MATERNAL WELFARE

W. W. Walker, M.D., Chairman, Memphis (1950)  
 Edward F. Buchner, Jr., M.D., Chattanooga (1950)  
 Samuel C. Cowan, Jr., M.D., Nashville (1950)  
 M. L. Hefley, M.D., Knoxville (1949)  
 E. L. Caudill, M.D., Elizabethton (1949)

D. T. Holland, M.D., Newbern (1948)  
 J. E. Powers, M.D., Jackson (1948)

## CHILD WELFARE

William E. Van Order, M.D., Chairman, Chattanooga (1948)  
 James C. Overall, M.D., Nashville (1950)  
 W. R. Cross, M.D., Knoxville (1948)  
 W. D. Mims, M.D., Memphis (1948)

## VETERANS

John C. Burch, M.D., Chairman, Nashville (1949)  
 Travis H. Martin, M.D., Nashville (1948)  
 William M. Dedman, M.D., Gallatin (1947)  
 Herbert Acuff, M.D., Knoxville (1949)  
 W. J. Sheridan, M.D., Chattanooga (1948)  
 D. J. Zimmermann, M.D., Morristown (1947)  
 J. Paul Baird, Dyersburg (1949)  
 C. V. Crowell, M.D., Memphis (1948)  
 John W. Morris, M.D., Somerville (1947)

POSTGRADUATE INSTRUCTION, CANCER  
AND NEUROPSYCHIATRY

C. H. Heacock, M. D., Chairman, Memphis (1950)  
 W. L. Williamson, M.D., Memphis  
 W. C. Colbert, M.D., Memphis  
 T. S. Hill, M.D., Memphis  
 O. N. Bryan, M.D., Nashville  
 Henry Brackin, M.D., Nashville  
 A. M. Patterson, M.D., Chattanooga  
 Edward T. Brading, M.D., Johnson City  
 J. O. Manier, M.D., Nashville  
 Frank Luton, M.D., Nashville  
 Stanton S. Marchbanks, M.D., Chattanooga (1950)  
 Ralph H. Monger, M.D., Knoxville (1949))  
 R. N. Buchanan, Jr., M.D., Nashville (1949)  
 H. S. Shoulders, M.D., Nashville (1948)  
 R. L. Sanders, M.D., Memphis (1948)

## PHYSICAL THERAPY

J. F. Hamilton, M.D., Chairman, Memphis (1948)  
 J. J. Ashby, M.D., Nashville (1950)  
 John J. Killeffer, M.D., Chattanooga (1950)  
 C. H. Sanford, M.D., Memphis (1949)  
 George Inge, M.D., Knoxville (1949)

## INDUSTRIAL HEALTH

Edward T. Newell, Jr., M.D., Chairman, Chattanooga (1950)  
 O. G. Nelson, M.D., Nashville (1949)  
 Fred M. Duckwall, M.D., Kingsport (1948)  
 F. W. Fiedler, M.D., Memphis (1948)

## GENERAL PRACTICE

C. B. Roberts, M.D., Chairman, Sparta (1949)  
 Charles S. Heron, M.D., Charleston (1948)  
 J. Paul Baird, M.D., Dyersburg (1950)

## RURAL HEALTH

Leo C. Harris, Sr., M.D., Chairman, Lawrenceburg (1949)  
 O. Reed Hill, M.D., Lebanon (1950)  
 John Morris, M.D., Somerville (1950)  
 E. B. Smythe, M.D., Tiptonville (1948)  
 M. S. Trewhitt, M.D., Cleveland (1950)  
 D. J. Zimmermann, M.D., Morristown (1950)

ADVISORY COMMITTEE TO THE WOMAN'S  
AUXILIARY, 1947-1958

Herbert Acuff, M.D., Knoxville  
 B. F. Byrd, M.D., Nashville  
 A. R. Porter, Jr., M.D., Memphis

# The Journal of the TENNESSEE STATE MEDICAL ASSOCIATION

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE

ISSUED MONTHLY, Under Direction of the Trustees  
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W. M. HARDY, M.D., Secretary and Editor  
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Volume XL

SEPTEMBER, 1947

Number 9

## PROCEEDINGS OF THE HOUSE OF DELEGATES, ONE HUNDRED TWELFTH ANNUAL MEETING, TENNESSEE STATE MEDICAL ASSOCIATION, PEABODY HOTEL, MEMPHIS, TENNESSEE, APRIL 8-10, 1947

### TUESDAY AFTERNOON SESSION APRIL 8, 1947

The first session of the regular meeting of the House of Delegates of the Tennessee State Medical Association, held at the Peabody Hotel, Memphis, Tennessee, convened at 2:00 o'clock, Dr. E. R. Zemp of Knoxville, Speaker of the House, presiding.

THE SPEAKER: The house will please come to order. The Secretary will call the roll.

(Those answering present are listed below.)

### LIST OF CERTIFIED DELEGATES

County	Delegate
Anderson-Campbell	J. M. Cox
Anderson-Campbell	M. L. Davis
Blount	W. N. Dawson
Bradley	W. A. Garrott
Consolidated Med. Assembly of W. Tenn.	J. R. Thompson, Jr.
Davidson	Geo. K. Carpenter
Davidson	N. S. Shofner
Davidson	David W. Hailey
Davidson	Sam J. Fentress
Davidson	H. B. Brackin
Davidson	D. C. Seward
Dyer	W. E. Anderson
Lake	W. L. Summers
Greene	Dale Brown
Hamilton	Joseph W. Johnson, Jr.
Hamilton	Wm. J. Sheridan
Hamilton	E. T. Newell, Jr.
Knox	Herbert Acuff
Knox	Ralph H. Monger
Knox	R. B. Wood
Knox	M. S. Roberts
Lawrence	Leo C. Harris, Sr.
Lincoln	T. A. Patrick
Maury	W. N. Cook
Overton	Myrtle Lee Smith
Roane	Dana Nance
Robertson	John S. Freeman
Shelby	C. H. Heacock
Shelby	W. C. Colbert
Shelby	W. B. Key
Shelby	D. H. James
Shelby	H. W. Qualls
Shelby	Clyde Crowell
Shelby	S. F. Strain
Washington-Carter	Harry Myron, Jr.
Unicoi	C. W. Friberg
Unicoi	B. S. Shook
White, Warren, Van Buren	James H. Boles
White, Warren, Van Buren	C. M. Clark
Wilson	O. R. Hill

### LIST OF OFFICERS OF THE TENNESSEE STATE MEDICAL ASSOCIATION

President	Nashville
C. M. Hamilton, M.D.	
President-Elect	Chattanooga
Franklin B. Bogart, M.D.	

### Vice-Presidents

J. Paul Baird, M.D.	Dyersburg
W. A. Howard, M.D.	Cookeville
Lea Callaway, M.D.	Maryville

### Secretary-Editor

W. M. Hardy, M.D.	Nashville
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### TRUSTEES

#### Chairman and Treasurer

Daugh W. Smith, M.D.	Nashville
E. R. Zemp, M.D.	Knoxville
B. L. Jacobs, M.D.	Chattanooga
Ernest G. Kelly, M.D.	Memphis
Wm. C. Chaney, M.D.	Memphis

### COUNCILORS

L. E. Dyer, M.D.	Greeneville
Kyle C. Copenhaver, M.D.	Knoxville
A. M. Patterson, M.D.	Chattanooga
J. T. Moore, M.D.	Algood
J. T. Gordon, M.D.	Lewisburg
H. M. Tigert, M.D.	Nashville
C. D. Walton, M.D.	Mt. Pleasant
Jere L. Crook, M.D.	Jackson
J. Paul Baird, M.D.	Dyersburg
Wm. Britt Burns, M.D.	Memphis

#### Delegates to the American Medical Association

*E. G. Wood, M.D.	Knoxville
H. B. Everett, M.D.	Memphis

### Alternates

E. T. Newell, M.D.	Chattanooga
Wm. C. Chaney, M.D.	Memphis

\*Deceased.

### PAST PRESIDENTS

Dr. S. R. Miller	Knoxville
Dr. Wm. Britt Burns	Memphis
Dr. E. C. Ellett	Memphis
Dr. Jere L. Crook	Jackson
Dr. E. R. Zemp	Knoxville
Dr. Edward T. Newell	Chattanooga
Dr. T. R. Ray	Shelbyville
Dr. W. P. Wood	Knoxville
Dr. H. B. Everett	Memphis
Dr. J. O. Manier	Nashville
Dr. John B. Steele	Chattanooga
Dr. W. L. Williamson	Memphis
Dr. George Williamson	Columbia
Dr. W. O. Baird	Henderson
Dr. L. W. Edwards	Nashville
Dr. Hiram A. Laws, Jr.	Chattanooga
Dr. J. B. Stanford	Memphis
Dr. W. C. Dixon	Nashville
Dr. H. M. Tigert	Nashville
Dr. O. N. Bryan	Nashville
Dr. Kyle M. Copenhaver	Knoxville
Dr. Wm. C. Chaney	Memphis

THE SPEAKER: A quorum is present and the meeting is now open and ready for business.

DR. HARDY: Mr. Chairman, the minutes of the meetings, both the regular and special meetings of the House of Delegates, have been published in the Journal. I move that they be adopted as published.



(The motion was regularly seconded, put to a vote and carried.)

### NOMINATING COMMITTEE

THE SPEAKER: We will recess for five minutes in order that you may elect your Nominating Committee: East Tennessee one group, Middle Tennessee another group, West Tennessee another group, which elect three men from each group. No two men shall be from the same county.

(Recess.)

THE SPEAKER: We will now hear the reports on the election of a Nominating Committee.

(The following were reported as elected to the Nominating Committee)

West Tennessee—Dr. W. L. Williamson, Shelby; Dr. Jack Thompson, Jr., Madison; Dr. J. Paul Baird, Dyer.

Middle Tennessee—Dr. Leo C. Harris, Sr., Lawrence; Dr. William N. Cook, Maury; Dr. George Carpenter, Davidson.

East Tennessee—Dr. John B. Steele, Hamilton; Dr. C. W. Friberg, Washington; Dr. Herbert Acuff, Knox.

THE SPEAKER: Gentlemen, please understand that is the Nominating Committee, and no two men are from the same county. That represents nine counties. Also please bear in mind that when this Committee makes its report, anybody on the floor has the privilege, and it is his duty, to nominate someone else if he thinks he is a better man than the one nominated.

May I also remind you that this Committee should nominate the Council members. We have had a little trouble in the past about their just being nominated from the floor. We want to specialize on that this year, and we will ask this Committee to have their nominations ready by tomorrow morning, which is the time when we elect the Council.

### REFERENCE COMMITTEES APPOINTED

THE SPEAKER: These members are requested to serve on Reference Committees as follows:

*Credentials Committee*—Dr. C. A. Turner, Dyersburg, Chairman; Dr. H. Dewey Peters, Knoxville; Dr. Sam Fentress, Goodlettsville.

I will ask that Committee to get busy and pin the badges on the men.

*Committee on Reports of Officers*—Dr. W. J. Sheridan, Chattanooga, Chairman; Dr. Webb B. Key, Memphis; Dr. O. R. Hill, Lebanon.

*Committee on Reports of Committees*—Dr. J. B. Stanford, Memphis, Chairman; Dr. D. W. Smith, Nashville; Dr. A. M. Patterson, Chattanooga.

*Committee on Resolutions*—Dr. W. C. Colbert, Memphis, Chairman; Dr. N. S. Shofner, Nashville; Dr. H. B. Everett, Memphis; Dr. John B. Steele, Chattanooga; Dr. L. E. Dyer, Greeneville.

*Committee on Amendments to the Constitution and By-Laws*—Dr. R. B. Wood, Knoxville, Chairman; Dr. B. L. Jacobs, Chattanooga; Dr. C. V. Crosswell, Memphis.

### REPORTS OF OFFICERS

THE SPEAKER: We will now hear the reports of officers. The first is the Treasurer.

DR. DAUGH W. SMITH (Nashville): I have here the audit of the Treasurer's books which I submit as my report.

### REPORT OF EXAMINATION FOR YEAR

ENDED DECEMBER 31, 1946

*The Chairman and Board of Directors, Tennessee State Medical Association, Nashville, Tennessee.*

SIRS:

We have examined the cash receipts and disbursements of the Tennessee State Medical Association, Nashville, Tennessee, for the year ended December 31, 1946. The results of our examination are presented in the following comments and on the exhibits and schedules designated as follows:

*Exhibit "A"—Statement of Receipts and Disbursements, Year Ended December 31, 1946.*

Schedule A-1—Cash in Banks, December 31, 1946.

Schedule A-2—Statement of Income Receipts by Months, Year Ended December 31, 1946.

Schedule A-3—Disbursements, Medical Journal, Year Ended December 31, 1946.

Schedule A-4—Salaries and Wages, Year Ended December 31, 1946.

Schedule A-5—General Expenses, Year Ended December 31, 1946.

Schedule A-6—Committee and Convention Expenses, Year Ended December 31, 1946.

Schedule A-7—Social Security Tax Expense Paid, Year Ended December 31, 1946.

Schedule A-8—Investments, Etc., December 31, 1946.

*Cash in Banks—Checking Accounts—\$9,208.00*, was verified by reconciliation of statements rendered by the banks with the records of the Association. All cash receipts appearing in the records were traced into the depositories. In verification of disbursements, cancelled checks were examined as to signatures and endorsements and the amounts and payees thereon were compared with the entries on the cash disbursements records.

*Investments and Savings Deposits—\$38,335.74*. The Association had funds invested and on deposit in Savings Accounts to the total amount of \$38,335.74 at December 31, 1946. Investments were represented by \$15,379.74 in First Mortgage Real Estate Notes, at cost; \$9,400.00 maturity value Series "F" Defense and Savings Bonds, at cost \$6,956.00; and \$6,000.00 face value Series "G" Savings Bonds, at cost \$6,000.00. Savings deposit balances were: Third National Bank, \$5,000.00, and Broadway National Bank, \$5,000.00. The principal balances of the First Mortgage Real Estate Notes were verified by examination of the Association's account on the books of The First Mortgage Company, Nashville, Tennessee. Defense

and Savings Bonds were examined by our representative, and balances in Savings Account Deposits were verified by direct confirmation with the depositories.

On Schedule A-8 the items comprising invested funds are listed and for the purpose of record all investments are carried at cost. In addition to the above listed investments there is also shown on Schedule A-8 the amount of \$2,809.30 cash on deposit with First Mortgage Company, Nashville, Tennessee, available for investment.

### GENERAL

As shown on Exhibit "A," there was an excess of Income Receipts over Income Disbursements in the amount of \$2,867.66, and an excess of Capital Receipts over Capital Disbursements in the amount of \$883.62, and a net excess of Total Receipts over Total Disbursements in the amount of \$3,751.28.

A fidelity bond of \$10,000.00 on the Treasurer, Dr. D. W. Smith, was placed in effect for one year from April 12, 1946. Office Furniture, Fixtures, and Equipment were insured against loss by fire to the extent of \$500.00.

The records are maintained on a cash receipt and disbursement basis and we have not attempted to prepare a schedule of assets and liabilities at the close of the year, December 31, 1946. However, items of expense incurred during the year 1946 and unpaid at the end of the year consisted of the following:

Social Security Tax for the Last Quarter of 1946 (Payable in January, 1947)	\$ 26.55
Withholding Tax Withheld	234.00
Cost of November, 1946, issue of Journal	\$810.00
Cost of December, 1946, issue of Journal	875.00
(Including extra copies, mailing, etc.)	1,685.00
Membership Cards, Office Supplies, etc.	41.67
Linen Service for December, 1946	1.00
Lights for December, 1946	1.53
Telephone and Telegraph for December, 1946	25.49
Dr. H. B. Everett—Expenses to American Medical Association Meeting in Chicago—December	65.83
Tennessee Press Association—December Clippings	7.50
Total	\$2,088.57

Respectfully submitted,  
**OSBORN AND PAGE,**  
*Certified Public Accountants.*

March 29, 1947.

### EXHIBIT "A"

#### Statement of Receipts and Disbursements for Year Ended December 31, 1946

#### INCOME

Receipts—(Schedule A-2)—			
Dues		\$24,460.00	
Interest on Investments		633.08	
Advertising		12,004.14	
Rosters, Subscriptions, and Extra Copies of Journal		47.10	
Cuts		22.50	
Rent		160.00	
American Medical Association		2,399.14	
Exhibit Space		1,020.00	
Sale of Dictaphone		100.00	
Refund of Travel Funds Advanced		20.00	
Donation—St. Thomas Alumni		50.00	
Total Income Receipts			\$40,915.96
Disbursements—			
Medical Journal (Schedule A-3)	\$	6,249.68	
Salaries and Wages (Schedule A-4)		9,290.50	
General Expense (Schedule A-5)		4,080.47	
Board of Trustees, Committee and Convention Expense (Schedule A-6)		2,895.73	
Post-Graduate Instruction		1,500.00	
Transfer to Capital Fund		4,107.15	
Social Security (Schedule A-7)		78.30	
Tax Payments Deducted from 1945 Salaries and Wages:			
Social Security	\$	12.47	
Withholding Tax		94.55	107.02
			\$28,308.85
Less—Deductions, Fourth Quarter, 1946:			
Social Security		26.55	
Withholding Tax		234.00	260.55
Total Disbursements			\$28,048.30
Excess of Income Receipts Over Disbursements			\$12,867.66
Funds Transferred to Savings Accounts:			
Third National Bank	\$	5,000.00	
Broadway National Bank		5,000.00	
			\$10,000.00
Capital—			
Receipts:			
Principal First Mortgage			
Loan	\$	3,476.47	
Transfer from General Fund		4,107.15	7,583.62
Disbursements:			
First Mortgage Notes Purchased			6,700.00
Excess of Capital Receipts Over Capital Disbursements			883.62
			\$13,751.28
Represented by—			
General Fund		Savings Accounts	Inv'tm't Fund
Fund Balances (Cash) 12-31-46	\$9,208.00	\$10,000.00	\$2,809.30
Fund Balances (Cash) 12-31-45	0,823.42		1,442.60
	\$2,384.58	\$10,000.00	\$1,366.70
			\$13,751.28

### SCHEDULE A-2

#### Statement of Income Receipts by Months for Year Ended December 31, 1946

	Total	Dues	Interest on Investments	Advertising	Exhibit Space	Rosters, Subscriptions, Extra Copies of Journal	Rent	Sale of Dictaphone	Cuts	American Medical Association	Refund of Travel Funds Advanced	Donation St. Thomas Alumni
January	\$10,448.66	\$ 9,360.00		\$ 947.46		1.20	40.00	100.00				
February	5,317.77	4,005.00		852.77	420.00		40.00					
March	6,282.93	5,024.00		954.43	250.00	2.00	40.00		12.50			
April	2,574.30	1,224.00	75.00	980.30	250.00	5.00	40.00					
May	2,179.98	990.00		1,189.98								
June	1,369.71	316.00		949.71	50.00	4.00						\$50.00
July	2,366.77	1,326.00		981.77	50.00	9.00						
August	1,416.23	375.00		1,039.23		2.00						
September	1,004.67	225.00		773.17		6.50						
October	1,723.70	435.00	75.00	1,209.30		4.40						
November	1,100.17	165.00		921.17		4.00			10.00			
December	5,131.07	1,015.00	483.08	1,204.85		9.00				2,399.14	20.00	
Totals	\$40,915.96	\$24,460.00	\$633.08	\$12,004.14	\$1,020.00	\$47.10	\$160.00	\$100.00	\$22.50	\$2,399.14	\$20.00	\$50.00

### SCHEDULE A-1

#### Cash in Banks December 31, 1946

<b>American National Bank—</b>	
Balance per Bank Statement and Confirmation	\$9,173.00
<b>Outstanding Checks:</b>	
12-6-46—S. M. Herron	\$ 15.00
12-21-46—Eveready Letter Service	12.55
12-31-46—Price-Bass Company	2.50
12-31-46—W. M. Hardy	92.60
12-31-46—V. O. Foster	176.40
12-31-46—Willard Batey	74.85
12-31-46—Bettye Kimbrough	36.10
	<u>410.00</u>
	\$8,763.00
<b>Deposits in Transit:</b>	
12-31-46	\$375.00
1-4-47 (Received 12-31-46)	20.00
	<u>395.00</u>
Cash in American National Bank 12-31-46	\$9,158.00
<b>Broadway National Bank, Church St. Branch—</b>	
Balance per Bank Statement and Confirmation	50.00
Total Cash in Bank 12-31-46—Exhibit "A"	\$9,208.00

### SCHEDULE A-3

#### Disbursements, Medical Journal

#### Year Ended December 31, 1946

Printing	\$2,750.00
Extra Copies	274.68
Mailing	425.00
Color Cover	645.00
Color Advertising	1,013.00
Tables, Minutes, Etc.	170.00
Extra Composition and Extra Pages	747.00
Inserts and Halftones	162.50
Paper Stock Increase	62.50
Total—Exhibit "A"	\$6,249.68

### SCHEDULE A-4

#### Salaries and Wages

#### Year Ended December 31, 1946

Dr. W. M. Hardy	\$2,100.00
Miss Willard Batey	2,025.00
Mrs. Ethel Harrison	360.00
Miss Bettye Kimbrough	540.00
V. O. Foster	3,600.00
Edna Anderson	365.50
Total Salaries and Wages—Exhibit "A"	\$9,290.50

### SCHEDULE A-5

#### General Expenses

#### Year Ended December 31, 1946

Office Rent	\$ 897.48
Rent of Books	30.00
Postage	213.00
Subscriptions	12.00
Programs, Supplies, Etc.	129.85
Letter Service	91.80
Telephone, Telegraph and Lights	294.79
Linen Service	12.00
Auditing Service	65.00
Cuts, Reprints and Supplements	1,112.58
Repairs—Office Equipment	14.90
Safety Deposit Box Rental	3.60
Display Cards, Lettering, Etc.	26.75
Dr. C. M. Hamilton, Honorarium	100.00
Refund of Dues	828.00
Badges	63.00
Booklets	26.45
Projection Service	50.00
Express	44.27
Radio Transcriptions	25.00
Bond—Dr. Smith	25.00
2 Chairs	15.00
Total—Exhibit "A"	\$4,080.47

### SCHEDULE A-6

#### Committee and Convention Expenses

#### Year Ended December 31, 1946

<b>American Medical Association, San Francisco:</b>	
Travel, Meals, Hotel	\$ 693.31*
Report Proceedings 1945 A. M. A. Meeting—Chicago	104.16

\*Included overpayment of \$9.00 to Dr. W. M. Hardy.  
To be deducted from subsequent travel check.

<b>Tennessee State Medical Convention:</b>	
Travel, Hotel, Meals	\$221.21
Reporting Service	473.06— 694.27
<b>Reporting Service—House of Delegates—</b>	
September 22, 1946	253.61
Luncheon—Prepaid Medical Care Committee	31.00
Luncheon—Veterans Committee	22.00
Committee Members' Travel and Meal Expense	171.99
Travel, Meals and Hotel—Boston Meeting	125.00
Miscellaneous Travel Expense of Officers	800.39
Total—Exhibit "A"	\$2,895.73

### SCHEDULE A-7

#### Social Security Tax Expense Paid

#### Year Ended December 31, 1946

Social Security—1945	\$12.47
<b>First Quarter—1946</b>	
Less—Deductions	\$26.95
	13.47— 13.48
<b>Second Quarter—1946</b>	
Less Deductions	51.30
	25.65— 25.65
<b>Third Quarter—1946</b>	
Less—Deductions	53.40
	26.70— 26.70
Total—Exhibit "A"	\$78.30

### SCHEDULE A-8

#### Investments, Etc.

#### December 31, 1946

#### First Mortgage Real Estate Notes—

	Acquired 1946	Principal Balance 12-31-45	Principal Received 1946	Principal Balance 12-31-46
Anna Mary Bransford		\$ 1,074.42	\$ 362.26	\$ 712.16
A. D. Talley		175.00	175.00	
M. E. Hooper		3,289.01	289.01	3,000.00
Charles E. Schofield		7,617.78	433.91	7,183.87
Roy T. Doss	\$2,500.00			2,500.00
Sterling B. Bledsoe	2,200.00		2,200.00	
Wm. A. Lauderdale	2,000.00		16.29	1,983.71
Total Real Estate Notes	\$6,700.00	\$12,156.21	\$3,476.47	\$15,379.74

#### Bonds—(At Cost)

\$1,400.00 Par Series "F" Defense Bonds, April, 1942	\$1,036.00
\$8,000.00 Par Series "F" Defense Bonds, December, 1943	5,920.00
\$6,000.00 Par Series "G" Defense Bonds, April, 1943	6,000.00
Total Bonds	\$12,956.00

#### Cash in Savings Deposits—

Third National Bank	\$5,000.00
Broadway National Bank	5,000.00
	<u>\$10,000.00</u>

Total Investments and Savings Deposits \$38,335.74

#### Cash—

<b>Available for Investment, on deposit with</b>	
<b>First Mortgage Company:</b>	
Investment Fund Balance, December 31, 1945	\$1,442.60
Transfer from General Fund	4,107.15
Collected on Principal	3,476.47
Interest Collected	483.08
	<u>\$9,509.30</u>
<b>Notes Purchased:</b>	
Roy T. Doss	\$2,500.00
Sterling B. Bledsoe	2,200.00
Wm. A. Lauderdale	2,000.00— 6,700.00

Balance, Available for Investment at December 31, 1946 \$2,809.30

**THE SPEAKER:** The audit will be submitted to the Committee on Officers' Reports, of which Dr. Sheridan is Chairman.

**DR. DAUGH W. SMITH:** The report of the Board of Trustees has been published in the Journal following each meeting.



## REPORT OF THE SECRETARY-EDITOR FOR THE YEAR 1946

Upon call of the Speaker, Dr. W. M. Hardy read his report as Secretary-Editor.

*To the Members of the House of Delegates:*

It may be well in reporting the activities carried on under my supervision to discuss the subject under several heads.

### Membership

The 1946 membership totaled 1,716. This total would have been much larger if all county secretaries had reported all of their members who were still in the armed service at the beginning of the year. Some societies made no report at all and the names of these members do not appear on the roster of the society. Other secretaries collected dues and forwarded them to us from former members as they returned from the armed services. In these cases dues were refunded to the members paying them approximately to the amount of \$828.00.

### County Societies

The only change in the roster of county societies was occasioned by the consolidation of Warren, White and Van Buren Counties, as ordered by the last annual session of the House of Delegates.

During the war a number of the smaller counties had difficulty in holding regular meetings. As we approach a more normal state these difficulties are being overcome and several societies, formerly inactive, are being revived.

In this connection, it might be well to call the attention of the House of Delegates to the fact that the Councilor in each district should visit the county societies under his supervision. In several cases matters have been referred to the councilors and problems solved under the advice of the councilor.

### Journal

The publication of the Journal continues to take a great deal of time and thought. The increase in advertising and the addition of color in the advertisements makes the printing of the Journal a much more complicated operation than formerly. To preserve the balance between advertising matter and the rest of the Journal, additional pages have been added to every issue of the Journal.

A strike at the printing plant delayed some of the later issues.

The audit shows that the Journal carried a total of \$14,403.28 worth of advertising. This is approximately \$4,000 more than the 1945 account shows.

The rise in the cost of printing amounted to \$767.58.

Considering the above statement of the value of the Journal to the profession, it behooves the members of the State Association to support our advertisers in every possible way. No advertisement is printed without the approval of the American Medical Association, whose rules are very strict.

### Members in Service

Very few of the members of the State Association remain with the armed forces. A few former members have sought relocation elsewhere and a larger number of physicians, formerly practicing in other states, have come to Tennessee and our membership is on the increase.

### Finances

The assets of the Association, as pointed out by the Treasurer's report, shows a marked increase. This increase is due, to a large extent, to the increasing of the dues as ordered by the special session of the House of Delegates in 1945. In addition to this increase, the advertising revenue and the increase in membership gives us a normal increase in assets of which we have a right to be proud.

The Editor has attended several conferences in Chicago, in addition to the San Francisco meeting of the American Medical Association.

A number of committees will report activities which have increased the office work of the Association.

Since April 1, 1946, we have been helped in the office by Mr. V. O. Foster, who assumed the duties of the Assistant Secretary. Mr. Foster has been very active in carrying on the enlarged program of the society. When asked for a brief report of these activities I received a summary which I now quote:

### Report of the Assistant Secretary

The Assistant Secretary attended a one-week's Post Graduate Course at the American Medical Association's headquarters in Chicago before beginning his work with the Association.

During the past year the Assistant Secretary has attended several conferences and conventions of lay groups to offer the cooperation and assistance of the Tennessee State Medical Association in their activities which are related to our interests. A break-down of these conferences follows:

Lay Committees on Health Education	6
Radio Station Officials	23
State-wide Lay Conventions	6
School Administrators	6
Speaking Engagements (Soc. Med.)	2
National Conventions	3
The Secretary visited 11 local societies, securing sponsorship of radio broadcasts.	

### Activities Promoted During the Year

Pursuant to authorization of the Board of Trustees, the Assistant Secretary began the preparation and distribution of a weekly health column to the newspapers of Tennessee in March of 1947. The column is written in simple, lay style and is carefully reviewed by each member of the Committee on Education of the Association before being released to the press. During the first two weeks of this column, 46 papers (42 weeklies and 4 dailies) carried it as a feature.

A pilot experiment is now being conducted in one of the elementary schools of Davidson County in Health Education Radio broadcasts. One hundred seventy pupils and five teachers are participating. The effectiveness of this program is being observed and will be evaluated as to its future use in the schools throughout the state.

A state-wide program of radio health broadcasts to the general public has been carried on. Nine

stations throughout the state have carried a total of 15 series of these broadcasts. Each series is made up of 13 fifteen-minute programs.

The Assistant Secretary represented the Association in the coal mine survey conducted by the Department of the Interior last spring. The survey included the mines of East Tennessee.

Packages containing debate materials on socialized medicine have been prepared and mailed to several high school students participating in the nation-wide debate on this subject.

No account of the year's work would be complete without a reference to the work of the Committee on Prepayment Medical Service. These reports have been made in the Journal as the events took place.

At an extra session of the House of Delegates on September 22, 1946, the final report of the committee was accepted and the committee discharged.

As reported at the time, this matter was given to nine incorporators named by the House of Delegates. These incorporators were instructed to create a complete policy for the prepayment of medical care. The committee was to also investigate the possibility of finding insurance underwriters who would offer a similar plan for the approval of the House of Delegates.

Every insurance company legally doing business in the State of Tennessee was asked to submit a plan carrying out the ideas of the House of Delegates, as indicated at this special meeting. None of the insurance companies would submit a plan for various reasons.

When it became evident that the course outlined by the House of Delegates could not be followed, the incorporators called a meeting, and the deliberations of this meeting will be presented to the House of Delegates by a representative of the Board of Incorporators.

Respectfully submitted,

W. M. HARDY, M.D.,

Secretary-Editor.

April 8, 1947.

THE SPEAKER: This report will be referred to the Committee on Officers' Reports.

Gentlemen, at this time we wish to acknowledge the presence of two very distinguished guests, and I will ask them to come up front please—Dr. Shoulders and Dr. Lull. We will ask the President of the American Medical Association to address us and then he will introduce our other guest.

(The audience arose and applauded.)

DR. H. H. SHOULDERS: Mr. Speaker and Members of the House of Delegates of the Tennessee State Medical Association: It is not unusual for me to appear before this House. I have made a number of appearances in the past twenty years. It is very unusual for me to appear in the capacity in which I appear today. Nothing was further from my thoughts than the thought that I might ever occupy the position that I do. I think it goes to prove the truth of the statement of Anatole

France, who said, "The future is hidden from us all, even from those who make it."

As you all know, this is the centennial year of the American Medical Association. It is at such a time that I think we can turn back in memory and in history, and with some degree of profit and advantage to ourselves think at least for a little while of some of the motives which have actuated our predecessors and some of the actions they have taken, and some of the effects of these actions.

The American Medical Association had its birth in problems. There was ignorance of disease. There was suspicion. There were problems in ethics, the solution of which required collective actions, just as problems today require both individual and collective action, whatever your motives may be. They tackled the problems of medical education and as the result of all the actions they took over the years, I should say the medical profession of the United States is the best educated, the best trained profession to be found anywhere on earth.

They recognized, as was recognized two thousand years before by Hippocrates himself, that science without guidance by ethical principles, may be a dangerous thing, and I think recent developments prove the truth of that. They there gave emphasis to the application of ethical principles in the practice of our profession, and as a result of the actions taken, professional medicine in the United States is the most ethical profession to be found anywhere on earth today.

We might go on and enumerate. The next study, of course, was the challenge of the diseases, the causes of which they were ignorant. They were ignorant of the science, it was limited, yet they struggled, they had diligence, prudence, ethics and forbearance. As a result, I should say that medicine, with that diligence, has made the greatest progress of any profession in the world.

The very fact of progress has created new problems, and I think we are beginning to recognize the fact that as of today we are faced with a problem connected with the economics of medical care. It is a problem which requires the same degree of diligence, the same degree of ethics, the same degree of prudence and wisdom and humanitarianism that has characterized the profession from its inception, and I feel this way, that the future of our profession, the future of its service to humanity, will revolve to a great extent around the diligence, forbearance and wisdom with which we approach and solve the problems with which we are faced today.

I know how busy you are, and I shall not take up more of your time. I want to thank you from the bottom of my heart for your generous reception. (Applause.)

If I am requested to do so, I would say this with regard to your guest and my associate. It was obvious to many that Dr. West was declining in health two years ago, and more. He had carried



many weighty problems for a long, long time. At the time that his decline was becoming increasingly obvious, great difficulty faced the Board of Trustees in finding a suitable successor. It is not an easy job to fill. The person who fills that must have, first, some real executive ability. Next, he must be a doctor who knows something of medicine and of doctoring.

As a result of diligent search, that Board of Trustees found, I think, one of the most suitable characters and one of the best trained doctors, one with the widest acquaintance and one with superior executive ability, in the person of the man it is my pleasure to present, Dr. George Lull.

(The audience arose and applauded.)

DR. GEORGE LULL: Mr. Speaker, Members of the House of Delegates: Providing everything Dr. Shoulders said is true, I know that I am entirely incapable of making two speeches in one day, and I see that I am on the program to make one tonight.

I want to express my appreciation of being allowed to appear before you, however. My purpose in coming here is not to make a speech or to tell you anything, but to get acquainted with you, because I am working for you. This is your society. The American Medical Association is a federation of state societies, and it is only as strong as its weakest link, so that unless the state societies are strong, we cannot have a strong federation of state societies.

Fortunately, organized medicine has weathered one hundred years. My attention was called to the fact that in going back through the history, there was never any dissension in the ranks of organized medicine over scientific medicine. The only time that there is any trouble is when we step outside of scientific medicine and go into business, so to speak. For instance, in the early days, as Dr. Shoulders said, we were concerned with medical education and it caused a great deal of dissension in the ranks of organized medicine. They could not agree on what was to be done. It took them about fifty years before anything was done.

The same thing has come up several times in the history of the organization, and we are in the insurance business, most of us, and there are all kinds of arguments now in the ranks of organized medicine as to what kind of insurance plan we should have, and how it should be put into effect. I do not think we should be concerned so much about what kind of plan, or how it should be put in effect, so long as we put some good plan into effect, but it is necessary that organized medicine have some plan so that we can show our enemies that we have a plan. We cannot sit back and just oppose things. We must go forward with a positive program.

I think that the American Medical Association has a wonderful ten-point program that was adopted by the Trustees a year ago. This program needs the assistance not only of the state

medical societies and the county units, but it also needs the assistance of people outside the medical profession to put it into action.

It has started, and it is gathering momentum. I believe that in a few years we can look forward to the successful accomplishment of many of the things that the Trustees and the House of Delegates plan for the Association to do. It has been a slow process and it has been very difficult. There is a lot of inertia. It is inertia that is caused by other duties. The average doctor in the city has to go to so many medical meetings that he simply loses interest in going to the county medical society. He thinks that is something he can get out of. He has the hospitals to go to, and he has those other local professional societies, but if there ever was a time that we have to be unified, it is the present time, and it is the county units that need to be unified first if the organizations on higher levels are to be unified.

I appreciate having this opportunity to appear before you, and I appreciate much more the fact that I have had an opportunity to meet most of you. Thank you. (Applause.)

THE SPEAKER: We will now proceed with the regular scheduling of business. First we will have the report of the Delegate to the A. M. A.

#### REPORT OF THE DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION

DR. H. B. EVERETT (Memphis): The report of the regular meeting of the A. M. A. was published in the September issue, page 325. We file that as our report unless some one wants it read.

(Due to the death of Dr. E. G. Wood, no report of the interim meeting of the House of Delegates has been published.)

DR. E. T. NEWELL (Chattanooga): Mr. Chairman, I move we stand for one minute with bowed heads in respect for the memory of Dr. Wood.

(The members of the House arose and observed a moment of silent tribute to Dr. E. G. Wood.)

THE SPEAKER: We will accept the report as printed in the Journal as the report of the Delegate to the A. M. A.

#### REPORT OF THE COMMITTEE ON SCIENTIFIC WORK

DR. HARDY: Mr. Chairman, as usual, I desire to submit the printed program of this meeting as evidence of the work done by the Committee on Scientific Work.

(Published in March Journal, page 83.)

This goes to the Committee on Reports of Committees.

THE SPEAKER: Report of Public Policy and Legislation.

(Dr. N. S. Shofner, Nashville, read the report as follows:

#### REPORT OF COMMITTEE ON PUBLIC POLICY AND LEGISLATION

On December 15, 1946, there was a called meeting of your Committee and the Board of Trustees



of the State Medical Association for the purpose of discussing proposed legislation to be introduced into the 1947 Session of the Legislature. This meeting was attended by our attorney, Mr. Charles Cornelius of Nashville, and Dr. H. W. Qualls, Secretary of the Board of Medical Examiners, and Dr. R. H. Hutcheson, Commissioner of Health, who were especially invited because of their interest in the proposed legislation.

As a background of this meeting, it should be recalled that public disclosure had recently been made of fraudulent and illegal licensure on the part of the Naturopathic Examining Board and of glaring evasions of the laws concerning the practice of Naturopathy in the State of Tennessee. It also should be pointed out that the disclosure of these abuses had been made through the investigation of Mr. Harry S. Avery, who was employed by a special investigating committee authorized by a resolution passed at the 1945 Session of the Legislature and appointed by Governor McCord. The above resolution was sponsored by your Committee in 1945 and received the enthusiastic and indispensable support of Governor McCord at that time.

Having in mind the ease with which innumerable fraudulent licenses to practice Naturopathy had been issued without any satisfactory means of routine investigation and checking of such licenses, Dr. Hutcheson consulted with the Nashville members of your Committee and with Mr. Cornelius in an effort to prepare legislation which would prevent such abuses by the same or any other cults in the future.

As a result of several conferences, Mr. Cornelius wrote a bill which seemed to meet the needs of the situation, and it was primarily for discussion of this bill that the joint meeting of the Committee and Trustees was called. Dr. Qualls made several constructive criticisms of the original bill and after thorough discussion the bill with certain changes to meet with Dr. Qualls' objections was approved. It was decided that the bill should be introduced as one from the Tennessee Department of Public Health rather than from the Tennessee State Medical Association. We were advised by Mr. Cornelius that we should take no active part in the attempt to pass this bill, and this advice was accepted unanimously by the Committee.

The bill was passed and duly signed by the Governor. There were a few tense moments when some pressure was necessary to influence a few legislators who had not seen the light and with a few well placed telephone calls to the doctors of the home counties of the wavering solons, there came a change of heart.

The essential features of the bill as reported in the February issue of Tennessee State Journal are as follows:

"1. A Licensing Board for the healing arts is created to issue licenses after an applicant has been certified by the examining board of his branch of the healing arts. This licensing board is composed of the Commissioner of Health, the Secretary

of State, and the State Treasurer. It is the duty of the licensing board to investigate the authenticity of the applicant's credentials and the full compliance with the laws before issuing licenses. The board must keep records of such licenses.

"2. All practitioners of the healing arts are required to register annually and to pay a small annual license fee to cover cost of administration. The purpose of this provision is to have a means of knowing how many practitioners are active and where located.

"3. All practitioners of the healing arts are required to identify the type of practice they propose to engage in. This is to be done by office signs, stationery, etc., on which is printed 'Doctor of Medicine,' 'Osteopathic Physician,' etc., as the case may be. The purpose of this provision is to prevent patients from unwittingly going to a practitioner of some strange type of healing with the impressions that all 'doctors' are doctors.

"4. The State Licensing Board may suspend or revoke licenses for 28 unethical practices, including advertising."

As a result of the revolting disclosures of Naturopathic fraud, there arose throughout the state a public demand for the complete repeal of the Naturopathic Act, and the Legislature and the Administration took matters into their own hands and repealed this act without urging from your Committee, thus apparently ending a sordid era in the annals of quackery in the State of Tennessee. While we cannot take credit for an active part in the final debacle, we can take a certain amount of grim satisfaction in having fought the original passage of the Naturopathic Act and having laid the groundwork for the investigation which finally led to the undoing of a predatory gang of rascals.

N. S. SHOFNER, M.D., Chairman.

FRANK HARRIS, M.D.

T. R. RAY, M.D.

H. B. EVERETT, M.D.

M. S. ROBERTS, M.D.

W. M. HARDY, M.D.

C. M. HAMILTON, M.D.

## POSTGRADUATE INSTRUCTION COMMITTEE

THE SPEAKER: Report of the Postgraduate Instruction Committee, Dr. Williamson, Chairman.

### Gynecology

Memphis, Tenn., April, 1947.

The two years' Postgraduate Instruction in Gynecology ended Thursday night, January 2, 1947, in Chattanooga, where one of the largest classes in the state was assembled. In addition, a colored group of physicians received instruction at noontime on the same day each week in Chattanooga.

The course by Dr. J. R. B. Branch, instructor, was well received throughout the state. The success of Dr. Branch with his course is also indicated when we learned that he has received and

accepted an appointment to give two years of Gynecology instruction for the Postgraduate Committee of the State Medical Association in Oklahoma. The Committee feels that it was fortunate in securing the services of so capable a teacher for our profession. The following is given by way of results:

#### Statistical

No. of Circuit Districts	10
No. Instruction Groups	48
(No. Colored Groups—3)	
No. Patients for Clinical Demonstration	259
No. Enrollments	1,241
(Military Included in Above—173)	
Private Consultations by Instructor	846
Average Percentage of Attendance	79.3%
Communities Receiving Lay Lectures	26
Total Lay Lectures Given	31
No. Laity Attending	2,631

The course in Gynecology exceeded our expectations in the matter of clinical demonstrations with patients. Ordinarily, this would be a difficult subject with which to have clinics. At the outset, a few physicians felt it would be impossible to think that women in their practice would come before medical groups for discussion and examination. But this was overcome by the tact and strategy of the instructor: (1) After the clinic, committees were appointed locally; they were urged by the field director to prepare in advance for the clinics; (2) the instructor supplemented these efforts with comments, urging the doctors to comb their practice for suitable material; (3) the instructor in his private consultations was alert to discover cases that fitted his needs, and urged the family doctors, and in turn the patients, to present themselves before the group.

It is true that all these efforts were not successful, but both the instructor and local committees, and the physicians themselves, became more efficient as the course progressed, in having splendid cases appear before the group. Some of these patients afterwards frankly told the instructor and their doctors that they were happy that their case could be discussed, since it seemed it was the feeling of the profession that it would be helpful to others with similar conditions as theirs.

One noticeable feature in the report on the program by Dr. Branch is the exceptional number of consultations held with the physicians throughout the state. This totaled 846. Someone once said that physicians, in order to call an instructor in for consultations over their private cases in a program of this kind, must first have confidence in the instructor's ability and knowledge of his subject. This is a tribute to Dr. Branch, the instructor.

Attached to this report is a special report addressed to the Committee by the instructor, Dr. Branch.

Also, there is attached to this report a final audit covering the two years of instruction in Gynecology made by a certified public accountant.

The Committee desires to express its thanks and appreciation to the contributors who made this course possible, namely: The Commonwealth Fund of New York; the Tennessee State Health Department, particularly Dr. R. H. Hutcheson, the Commissioner, and his Health Council; the two medical schools of Vanderbilt and the University of Tennessee; and the officials of our own State Association.

Respectfully submitted,

W. L. WILLIAMSON, M.D., Chmn.  
W. C. COLBERT, M.D.  
O. N. BRYAN, M.D.  
E. G. WOOD, M.D.  
A. M. PATTERSON, M.D.  
J. O. MANIER, M.D.  
G. S. McCLELLAN, M.D.

January 4, 1947.

Dr. W. L. Williamson, Chairman,  
My Dear Dr. Williamson:

The course in Gynecology ended in Chattanooga on January 2nd, and I am sorry it is finished. Mr. Kibler will give you the statistical part, but I do not think he has the figures on the number of clinic patients we had for demonstration. All told, there were 259; the highest, 42 in Area 1; the lowest, 8 in Area 4. With these two exceptions, they ranged from 22 to 33 in the other eight areas. As I have remarked in previous communications, if they wanted them, they provided them, and I have been gratified at their response.

The things principally stressed have been: (1) A careful study of the patient as a whole before rushing into pelvic examination, lest some general etiological or contributory factor be overlooked; (2) the necessity of considering nutritional and/or vitamin deficiencies, orthopedic conditions, etc., as being responsible for gynecological symptoms; (3) demonstrating the proper way of doing a pelvic examination, good position, adequate light, etc.; (4) the necessity of making a diagnosis, whether it be by general physical, pelvic, orthopedic, or laboratory examination, before treating symptoms.

In the field of endocrinology an effort was made to discourage the uncritical and haphazard use of hormones, without some idea of their indication or pharmacologic action. A considerable amount of time was devoted to malignancies, emphasizing our opportunities for prophylaxis and earlier diagnosis, and the importance of securing specimens either by curettage or punch for pathological examinations.

The special diagnostic procedures most frequently demonstrated were: (1) Tubal insufflation, (2) suction curettage to secure specimens of endometrium, (3) securing punch specimens of the cervix, (4) examination of discharge for trichomonas.

Along the lines of treatment the management of (1) menstrual disturbances, (2) sterility, (3) trichomonas vaginitis and malignancy were most frequently discussed, and cauterization of the cervix demonstrated.



Whenever opportunities came, lectures to parent-teacher associations, student groups, women's and men's clubs were given, the topics being "Sex Education," "The Climacteric," "Malignancy."

Never during the two years was there any doubt as to the need for, or desire for, such a course; the fact that there were over 300 more consultations and infinitely more patients for clinics than in the previous course is conclusive. The warm welcome given me throughout the state was gratifying and inspiring, and I leave with many happy memories and many regrets.

There seems to be so much interest and appreciation for these courses that I feel confident that the profession will continue their support; there may not be an immediate response to the appeal for funds right now, but I am sure that when the time comes to either put up or close up, you will get the necessary contributions.

In conclusion, I should like to thank you all for the many kindnesses shown me and Mrs. Branch during our stay in Tennessee; we shall always have a warm spot in our hearts for you and look forward to coming back from time to time to see you. I am extremely grateful for the opportunity of giving the two courses, for without doubt I derived more benefit from them than any of the doctors attending the courses. They may have learned something from the one giving the lectures, but I learned a lot from many of them.

Sincerely,

(Signed) J. R. B. BRANCH, M.D.

THE SPEAKER: It will be referred to the proper committee.

#### REPORT OF INSURANCE COMMITTEE

DR. HARDY: Mr. Chairman, Dr. Cooper handed me this report with the request that I read it for him.

April 8, 1947.

The Insurance Committee herewith submits its annual report to the House of Delegates.

The experience of our members has again been uniformly satisfactory with both companies with which our group accident and illness coverage is carried. If there has been the slightest unpleasantness of any kind in our relationship with them it has not come to our attention.

The Commercial Casualty Co., through its representative, Mr. Hayes Hartnett of Nashville, has paid 49 claims during the past year, a total of \$22,104.21. Three claims are pending. This is the largest amount paid to our group in any one year. Four hundred twelve of our members are insured in this group.

The National Casualty Co. has paid 14 claims to our members, a total of \$4,764.23 through the J. O. Tankard Agency, Nashville. Ninety (90) are now insured in this company.

The Committee calls the attention of our members to the fact we have no accident and illness insurance in any companies other than the two mentioned, and no proposition to provide such cov-

erage by any other company has been made to the Association through us. Some of our members have been deceived by the misrepresentations and misstatements made to them by representatives of a well-known assessment company of Omaha, Neb., as was done a year ago. The contract offered by them compares favorably in no wise with that obtainable with either of the above-named companies. Should any of our members be approached by one of their agents, we urge them before accepting one of their so-called group policies to communicate with the above-named agencies or with this Committee in order to obtain full comparative facts.

Let us insist on our members availing themselves of the unsurpassed protection against illness and accident obtainable under our group plans of insurance.

KYLE C. COPENHAVER, M.D.

C. M. HAMILTON, M.D.

A. F. COOPER, M.D. (Chmn.)

THE SPEAKER: The report will be referred to the proper committee.

#### REPORT OF CANCER COMMITTEE

(Dr. C. H. Heacock, Memphis, read the report.)

The last ten years have shown a progressive growth of interest regarding cancer throughout the state. During the past year the organization of the Tennessee Division of the American Cancer Society was completed. By-laws were adopted on October 10, 1946. Mr. F. C. Sowell of Nashville was elected President. Dr. S. S. Marchbanks of Chattanooga is Chairman of the Executive Committee; Dr. R. L. Sanders of Memphis is Chairman of the Medical and Scientific Committee, and Dr. Herbert Acuff of Knoxville is Chairman of the Service Committee.

Ten years ago, in the first fund-raising drive for Cancer Control, Tennessee had a quota of \$2,000, and raised \$1,480. In 1946, the quota for Tennessee was \$146,400. Under the able leadership of Mrs. Rogers N. Herbert, the State Commander of the Field Army, \$168,117.21 was raised. This amount was augmented by \$62,500 in Federal funds allocated by the Commissioner of Health of Tennessee. Seventy-seven counties in the state participated in this drive.

Under the Committee on Public Relations, the Tennessee Division of the American Cancer Society has initiated this year an educational program which will carry accurate information regarding cancer detection into every county of the state. Under Dr. Acuff's committee, plans are being formulated for the establishment of Detection Clinics throughout the state. A great deal of work along this line has already been done in East Tennessee.

The Trustees of this Association have given their approval to the immediate embarkation upon a state-wide postgraduate course on cancer. Your Committee on Cancer has been working with the Committee on Postgraduate Education in setting



up a budget for this course and in the securing of a competent instructor. At a joint meeting of these two committees today, a definite proposition was made to a candidate who made a very favorable impression on both committees. We will be able to report definitely within the next two weeks whether or not he accepts. Every effort is being made to institute this postgraduate course on cancer as soon as possible.

Respectfully submitted,

RALPH MONGER, M.D.  
S. S. MARCHBANKS, M.D.  
H. S. SHOULDERS, M.D.  
R. N. BUCHANAN, JR., M.D.  
R. L. SANDERS, M.D.  
C. H. HEACOCK, M.D. (Chmn.)

#### REPORT OF POSTWAR PLANNING

DR. HARDY: Mr. Chairman, Dr. Dixon is Chairman of that Committee, and inasmuch as he knew that he could not be here, he handed me this report.

The Postwar Planning Committee has had no meeting during the past year.

As pointed out in the report of the Committee at the last meeting of the House of Delegates, the function of the Committee was to aid returning veterans in finding locations.

We have had no request for such aid and, therefore, had no meeting of the Committee.

W. C. DIXON, M.D. (Chmn.)

#### REPORT ON STATE TUBERCULOSIS

THE SPEAKER: Report on State Tuberculosis.

DR. JOHN FREEMAN (Springfield): Dr. Rude was injured early in January, and he has not been able to make any contacts. So far as he knows, there has been no meeting and he has nothing to report.

#### REPORT OF MEDICAL EDUCATION

(Dr. W. C. Chaney, Memphis, read the report.)

*To the Delegates of the Tennessee State Medical Association:*

Your Committee on Education wishes to report that a state-wide campaign is now being carried on through the newspapers for the purpose of keeping the public informed upon important medical problems. Mr. V. O. Foster is supplying these articles, and our Committee is going over them to make sure they are medically correct. These articles are being published in the 98 "weeklies" in Tennessee.

We have also presented fifteen series of radio broadcasts over nine radio stations. Three series of broadcasts have been presented from Cookeville and Nashville, two from each of the following towns: Clarksville, Jackson and Kingsport, and one from Johnson City, Knoxville and Memphis. This is just the beginning of your Committee's campaign against the government control of medicine, and Mr. Foster is doing the major part of the work.

Respectfully submitted,

JOHN M. LEE, M.D.  
R. C. ROBERTSON, M.D.  
D. C. SEWARD, M.D.  
R. B. WOOD, M.D.  
C. H. SANFORD, M.D.  
W. C. CHANEY, M.D. (Chmn.)

#### REPORT OF VETERANS COMMITTEE

DR. HARDY: Mr. Chairman, Dr. Burch, the Chairman of the Veterans Committee is not present, but that Committee succeeded in writing a contract which has been accepted by the Veterans Administration. This contract as proposed was published in the September, '46, Journal, and as finally accepted was published in last month's Journal. We have additional copies of this contract for those who desire to get the contract, which states the conditions and the fees for doing the work.

#### REPORT OF THE RURAL HEALTH COMMITTEE

DR. LEO C. HARRIS, SR. (Lawrenceburg): Mr. Chairman, this is a new project for the State Medical Association. I think when the officers appointed this Committee, Dr. Hardy handed this Committee a pill, and handed us an enteric-coated one. I think that this is the greatest thing that this State Medical Association has ever undertaken, not because I am on the Committee, but because I have looked into the matter and made contacts that taught me the great needs and benefits of rural health.

I will not make my report today. The other two members of the Committee are not here, but I will see time this evening, and we will give the written report tomorrow.

I do want to say that if you medical men don't get out in the country and learn something of the needs in rural health, you just "ain't" doctors.

I do not know whom you will put on this Committee next year. I have attended this year some eight or ten of these group meetings, and I attended one in Chicago with your Secretary—one of the greatest meetings I ever attended in my life. Whoever is on that Committee is going to find that enteric-coated pill is going to go through him just like that!

I will make my report tomorrow, Doctor.

THE SPEAKER: It would be a good idea, I think, if the delegates would suggest names to go on this Committee. You know better than we do, and if you will hand them in to us, we will be glad to consider them.

#### NEW BUSINESS

DR. D. C. SEWARD (Nashville): Mr. Chairman, I would like to offer an amendment to the Constitution. I move that Article IV, Section 3, of the Constitution be amended by the insertion of the words "Veterans Administration" so that said section will read when amended: "Associate Members shall be commissioned officers in active service

of the United States Army, Navy, Public Health Service, and Veterans Administration residing in the state who are elected to membership by a component society and certified to the Secretary of the State Association as an associate member."

That amendment is offered to take care of the doctors who are stationed with the Veterans Administration throughout the state, who may be in this state for three months and move to another state and do not have to register in this state. It is unfair to ask them to get their license changed from one state to another, and by inserting the words "Veterans Administration," together with the United States Army, Navy, and Public Health Service, that will be taken care of.

THE SPEAKER: Is Dr. Colbert here? Of course you understand that has to lay over a year.

### ANNOUNCEMENTS

Dr. Arthur Porter, Jr., invited all the members of the House of Delegates to a party honoring the Past Presidents at the Country Club following adjournment.

Announcements concerning banquet tickets were made.

No other business appearing, the House of Delegates adjourned at 3:30 to meet at 9:00 Wednesday, April 9, 1947.

### WEDNESDAY MORNING SESSION

APRIL 9, 1947

The second session convened at 9:30 o'clock, Dr. E. R. Zemp, Speaker of the House, presiding.

THE SPEAKER: The House will please come to order. We will have the roll call.

(The Secretary, Dr. Hardy, called the roll. The credentials of Dr. W. J. Johnson, Giles County, and Dr. R. H. Hutcheson, Williamson County, were referred to the Credentials Committee, and the gentlemen were seated as delegates.)

THE SPEAKER: Before proceeding with the business, I want to announce these committees again, and the chairmen, and it is necessary when the committees meet that all the members be present, so there won't be any kicks afterwards.

(Announcement of committees as recorded.)

THE SPEAKER: I declare a quorum present, and we will proceed with the business of the morning. The first is the report of the Nominating Committee on Councilors.

DR. JOHN B. STEELE (Chattanooga): Mr. Speaker, Gentlemen: At your direction, we met immediately after the adjournment of the meeting yesterday. Unfortunately, everyone on the Committee was not present, but every section of the state was represented. If there is anyone who was not present, who is not satisfied, please feel free to make your nominations from the floor. We did the best we could.

Second District—Dr. Kyle C. Copenhaver

Fourth District—Dr. Myrtle Smith

Sixth District—Dr. D. C. Seward

Eighth District—Dr. Jere L. Crook

Tenth District—Dr. Henry Gotten

We move the election of these Councilors.

(The motion was seconded by Dr. Joseph Johnson of Chattanooga.)

THE SPEAKER: Are there any other nominations? I want to impress upon you that this Committee does not bind you to vote for the ones nominated by the Committee. It is up to the House of Delegates to nominate any man from any section of the state that you wish to have serve.

Are there any other nominations? Hearing none, we are ready for the vote. All in favor say "Aye"; opposed, "No." It is so ordered and these gentlemen are elected.

### REPORT OF THE COUNCILORS

The idea is for the Councilors to come up here and lay their confessions on the table, and they will be published in the Journal, and that saves us a whole lot of time unless someone has something special that he wishes to report from his district.

DR. JERE L. CROOK: I have something special. Mr. Chairman, Members of the House of Delegates: I am presenting something that I think has not been equalled in the Society, and it is due entirely to the efforts of our efficient Secretary, Dr. Herron. He deserves the entire credit for the fact that we have 110 members of the Consolidated Medical Society of West Tennessee, which includes fourteen counties. In those fourteen counties there are 110 doctors who are eligible to membership, and every last one of them belongs to the Society. (Applause.)

DR. A. M. PATTERSON: We have a new society—White, Warren, and Van Buren—which is showing great enthusiasm, and we are glad to welcome that new component society into our organization.

Councilors filed the following reports for publication and tabulation.

### SECOND DISTRICT

*Mr. Speaker and Members of the House of Delegates:*

As Councilor of the Second District I wish to make the following report of the activities of our societies for the year ending conjointly with the Tennessee State Medical Association:

We have nine counties in our district. We have 282 members of the societies and 22 residing in the district who are eligible for membership in the various societies. We have had seven men dropped from the roll during the past year. I have been unable to find out whether or not these seven were dropped on account of charges filed against them or whether they were dropped because of failure to pay their dues.

Blount County has had one member dropped from its roll on account of unethical practice. As Councilor of the Second District, I went to Maryville on his appeal to me to hear his case before the society and heard the evidence. The Blount County Medical Society acted within their rights and according to their by-laws in that he was expelled from membership in the society in a regular rou-



tine manner, and I upheld the society in its decision. Since his being expelled he has associated himself with a one Dr. McCoy, Naturopath. The best information I have is that they worked, operated and consulted together freely following his expulsion from the Blount County Medical Society; however, this was not a part of the charges against him at his hearing by the society. If he appeals to the Council of the Tennessee State Medical Association, I wish to be recorded as voting in favor of his expulsion.

The Roane County Medical Society has been inactive for several years. They had a reorganization meeting in February at the Oak Ridge Hospital, which is in Anderson County. In March they had their first regular meeting. By agreement, the Roane County Medical Society is meeting at the Oak Ridge Hospital. Naturally the Oak Ridge doctors favor that location rather than Clinton or La Follette, where the Anderson-Campbell County Medical Society meets, so we advised the Oak Ridge doctors they could become members of the Roane County Medical Society. It is expected that they will have forty to forty-five paying and active members when they complete their reorganization, which, with the facilities of the Oak Ridge Hospital for clinical material, will probably be the best medical society in this district, except the Knoxville Academy of Medicine. It is further my opinion that in the near future the Anderson-Campbell County Society will join in the Roane County Medical Society; however, there has been no action taken on this as yet.

Sorry it will be impossible for me to attend the Tennessee State Medical Association meeting at Memphis this year on account of illness.

KYLE C. COPENHAVER, M.D.,  
Councilor, Second District.

### THIRD DISTRICT

During the year a new society has been organized in the Third District. This is a combined society composed of White, Warren and Van Buren Counties. A meeting was held in McMinnville which President-Elect Bogart and your Councilor had the pleasure of attending. Much enthusiasm was shown, and we feel that this new society will materially add strength to our state organization. We most cordially welcome this group as a component society.

A few of the societies in this district have not yet recovered from the effects of the war period when doctors were overworked. We hope that as times get more normal these societies can become more active.

Statistical data which your Councilor has been able to obtain are hereto appended in tabular form.

Died: Hamilton County—Dr. Geo. P. Williams, veteran member. Monroe County—Three reported, but names not given.

Respectfully submitted,

A. M. PATTERSON, M.D.,  
Councilor, Third District.

### FOURTH DISTRICT

The profession in my district is in better organized condition than it has been in the past. There is a greater spirit of fellowship, better cooperation, less jealousy, and a greater desire to help each other than I have ever known before.

All the larger counties have splendid active societies. And some counties where there is not sufficient number for organization attend in adjoining counties; and practically all active men in the district attend our five-county society which meets every two months and is a good, live organization.

There are no active men in Clay County, only one; not very active and no organization. The same is practically true of Trousdale and Macon.

The last doctor in Pickett County died about ten days ago. Dr. Curtis Groce of Byrdstown, in Pickett County, was rather active until one day before his sudden death.

J. T. MOORE, M.D.,  
Councilor, Fourth District.

### SIXTH DISTRICT

DR. D. C. SEWARD (Nashville): Mr. Speaker, I am the recently elected Councilor for the Sixth District. We have a request from Lawrence County, Tennessee, for reinstatement of their charter which was issued in 1924, and was dropped in 1928 to form the Five Counties Medical Society, and that has ceased to function. They would like a reinstatement of their charter, and it is so recommended by the Councilor.

I move that their charter be reinstated.

(The motion was seconded by Dr. H. W. Qualls.)

THE SPEAKER: All in favor say "Aye"; opposed, "No." So ordered.

County and District	Members in County	Physicians in County	Eligible Non-Members	New Members	Died During 1946	Dropped	Society Meetings	Average Attendance	Paper Read
FIRST DIST.—									
Cocke	7	10	2	0	0	0	10	95%	6
Greene	21	19	0	4	0	0	12	12	11
Washington, Carter and Unicoi	73	75	8	12	1	0	10	40	10
SECOND DIST.—									
Nine Counties	282		22			7			
THIRD DIST.—									
Bledsoe (no society)		2	1	0	0	0	0	0	0
Bradley	13	17	4	1	0	1	6	6	0
Franklin	10	13	3	2	0	4	2	6	1
Grundy	3	4	0	0	0	0	0	0	0
Hamilton	189	219	20	30	1	9	31	64	46
Meigs (no society)		2	1	0	0	0	0	0	0
Marion (no society)									
Monroe	11	12	1	2	3	0	12	7	12
McMinn—No report obtainable.									
Polk—Inactive.									
Sequatchie (no society)		3	1	0	0	0	0	0	0
White.									
Warren and Van Buren	15	16	2	1	1	0	6	12	5



FOURTH DIST.—										
Cumberland	7	7	0	0	0	0	6	80%	6	
Fentress	3	4	1	0	0	0	2	3	0	
Jackson	4	4	0	1	2	2	0	0	0	
Overton	7	7	0	0	0	0	3	4	0	
Putnam	11	12	2	1	0	0	12	8	8	
Smith	12	11	3	1	1	1	12	75%	10	
Sumner	12	17	3	2	0	0	4	10	2	
EIGHTH DIST.—										
Consolidated										
Medical										
Assembly	110	116	0	15	1	3	12	50	20	
TENTH DIST.—										
Shelby	423	0	0	56	8	0	18	70	63	

### COMMITTEE REPORTS

THE SPEAKER: Has the Liaison Committee any report?

DR. HARDY: I was talking with Dr. Rucks of Memphis, a member of the Liaison Committee, and he said they had received no complaints, and therefore no action by the Liaison Committee had been necessary.

THE SPEAKER: Report of the Physical Therapy Committee. (No response.)

Report of Industrial Health Committee. Telegram received from Dr. Newell as follows:

Chattanooga, Tenn.  
April 9, 1947.

Dr. W. M. Hardy, Tenn. State Medical Ass'n,  
Peabody Hotel, Memphis:

Opening of my new clinic prevents my attending meeting. Sorry. Following a short report on Committee on Industrial Health, Committee held one meeting; has promulgated educational talk, radio addresses in East Tennessee, sent one delegate to A. M. A. Congress on Industrial Health in Boston last October. Cooperating best we can with A. M. A. Council for data they asked for.

CECIL NEWELL, M.D.  
Chmn. Com. on Industrial Health.

Report of State Hospitals Committee. (No response.)

Report of Maternal Welfare Committee. (No response.)

Report of Child Welfare Committee. (No response.)

Report of Fracture Committee. (No response.)  
Gentlemen, I think this has been a very poor response. Fifty per cent of the committees have not responded when called upon. I think a good many of them are unnecessary.

General Practice Committee:

DR. C. B. ROBERTS (Sparta): Mr. Chairman, we are in the same category with the other committees; we have nothing to report.

THE SPEAKER: Report of the Rural Health Committee.

Dr. Leo C. Harris, Sr., reported:

Your Committee on Rural Health realizes the importance of this work and has endeavored to lay the foundation for future work and has attended a number of meetings this year, during which two were with outstanding committees of South and A. M. A.

We recommend that Board of Trustees increase number of Committee to six, and some plan to take

care of expenses of delegates meeting with larger groups.

LEO C. HARRIS, SR., M.D. (Chmn.)

DR. GEORGE CARPENTER (Nashville): Mr. Speaker, may I say a word about these committee reports? We have a lot of dead committees. There is no need for a Committee on Physical Therapy, for instance; there is no need for certain other committees. I think the Board of Trustees should look into this question of committees and do what is necessary to get rid of some of them.

THE SPEAKER: I think the idea is a good one.

DR. HARDY: Mr. Chairman, the By-Laws require certain committees to be appointed. A list of those is on page 16, and also provision for other committees as may be needed. There are only fifteen committees listed there. Would you like to hear the names of them, and would someone like to submit an amendment to the By-Laws to strike out certain of these committees?

THE SPEAKER: I think that should be given some consideration before we strike out any.

DR. HARDY: An amendment to the By-Laws can be filed today, and tomorrow could be considered and action taken.

THE SPEAKER: I will entertain a motion that a committee be appointed to eliminate some of these unnecessary committees, and then report back to the House. We can vote now that that committee be appointed, and then they can change the By-Laws. Will someone make a motion to that effect?

DR. HARDY: I move that the Committee on Amendments to the By-Laws be instructed to study Chapter VIII of the By-Laws and bring back a recommendation as to what committees should be dropped.

(The motion was seconded by Dr. J. B. Stanford.)

THE SPEAKER: Any discussion? This is to change the By-Laws. It will lie over until tomorrow, but we can vote now on the motion. All in favor say "Aye"; opposed, "No." The Amendment Committee will please take note: R. B. Wood, B. L. Jacobs, C. V. Crowell. We will hold you responsible for the report.

We will have the report of the Committee on Prepayment Plans for Medical and Hospital Services.

### COMMITTEE ON PREPAYMENT PLANS FOR MEDICAL AND HOSPITAL SERVICES

DR. R. B. WOOD (Knoxville): Mr. Chairman and Gentlemen: The Committee on Prepaid Medical Insurance has had several meetings and later the Board of Incorporators has had subsequent meetings. As yet, the final report of this group is by no means ready. Certain things have been done and approval is desired on the part of the Incorporators for certain of these actions, and it is requested that they be granted permission to do certain things.

There are a few actions which are the function of the Board of Incorporators and which they have

gone ahead and done, some of these things without any special consultation with anyone. Just as in the practice of medicine, there are certain functions that a good doctor does not want and a bad one should not have. There are certain duties that arise in the course of the development of these plans on which we would rather have the sanction of the group before proceeding.

In order to get these things down in a concise form, I have a report which I wish to read. It is very brief. It jumps from one subject to another very rapidly. Taking that into consideration, I will read with your indulgence.

(Dr. Wood read the report.) (Applause.)

*Mr. Speaker, Members of the House of Delegates and Visitors:*

In April, 1946, the Committee on Prepayment Plans for Medical and Hospital Service of the Tennessee State Medical Association presented to this House of Delegates the following resolution:

*"Resolved, That the Board of Trustees be authorized to appoint a committee of nine members, three from each section of the state, for the purpose of collaborating with the Board of Trustees, the President, the President-Elect, and the Secretary of the Tennessee State Medical Association, to draft the Tennessee Voluntary Medical Service Plan, embodying the best features in other plans now in successful operation, and in accordance with the outline suggested by the American Medical Association and to report to this body when ready to report."*

This resolution was adopted and subsequently Drs. Stanford, Gotten, Tipton, Ray, Sloan, Wilkerson, Garrott, Laws and the speaker were appointed to the committee.

An initial meeting was held on June 16th and a report of the activities was carried in the State Journal of July. A second meeting was held September 22nd, at which time a charter application was read and accepted; a mixed service and indemnity plan was adopted, with income limitations of \$1,500 for single employees and \$2,500 for family groups. The name of Tennessee Medical Service Plan was adopted and headquarters were established in Nashville, Tennessee. Coverage of the insured was to be limited to surgery in and out of the hospital, obstetrics in and out of the hospital, fractures, X-ray and anesthetics if done by a physician in connection with the care offered. Additional care to include medicine and other services could be covered by riders added if desired by local groups. It was the sense of the committee that this plan should be given to the House with a statement that the majority of the committee prefer that the insurance be underwritten by a commercial company or companies. A committee was appointed to nominate the nine directors, five physicians and four laymen.

The Board of Trustees was requested to work out a preliminary plan of financing, and a committee was appointed to write the By-Laws.

The committees on By-Laws and on the selection of Directors made their reports and these were submitted to this House of Delegates, along with the other recommendations at the meeting of September 22 in Nashville. At this meeting, after discussion, the House of Delegates approved the following Incorporators of the Plan:

J. P. Sloan, M.D., Jamestown

W. C. Chaney, M.D., Memphis

John B. Steele, M.D., Chattanooga

N. S. Shofner, M.D., Nashville

R. B. Wood, M.D., Knoxville

Maclin Davis, Nashville

J. Frank Porter, Columbia

R. H. Peoples, Memphis

John T. O'Connor, Knoxville

The House accepted the Committee's report and by motion requested the Incorporators to formulate a complete policy, subject to the approval of the Commissioner of Insurance with rates, etc., ready for the press. They further requested a similar certificate with details approved by the Insurance Commissioner, with bids from private companies. The report was requested within a six months' period.

A meeting of the Incorporators was called in Nashville, and to this meeting there were invited representatives of private insurance companies who might be interested in submitting bids on underwriting the items approved by this House. In addition, there was requested the aid of the office of the Association of Medical Service Plans, Inc. At this meeting the Provident Life and Casualty Insurance Company of Chattanooga alone of the requested private companies sent representation. Their representative advised that his company believed that the limitations of \$1,500 to \$2,500 income precluded the possibility of bidding on our present contract; further surgical protection as offered without an accompanying hospital plan was also undesirable. They did request the opportunity of submitting a policy with rates, items, etc., which they and other companies might be interested in underwriting.

Previous to the meeting the office of the Secretary had received from other private companies various and assorted answers which information was covered by the editor in the February Journal.

At the meeting of February 2nd, the Incorporators organized, signed the application for a charter, and with the help of Medical Services, Inc., and the Commissioner of Insurance laid the foundation for writing a policy such as has been given you.

This policy, modeled on the Agricultural State of Iowa Service Plan, has been submitted to the Commissioner of Insurance by our Secretary-Editor and our legal representative, Mr. Cornelius. In a letter of April 3, 1946, Hon. Harry G. Sellman, Actuary of the Department, gave tentative approval to the various forms of instruments included, except he expressed some interest in fixing the income brackets a little higher. The Incorporators



porators at a subsequent meeting suggested the possibility that the House of Delegates might consent to raise the income bracket to \$2,000 for a single person and \$3,000 for a family. It is to be noted that other states also are now finding it advisable to elevate these brackets.

Another suggestion of the Incorporators is in reference to Section 7, sub-section 5, of the Act, in which working capital sufficient to carry all acquisition costs and all operating expenses for at least six months, or \$2,500, whichever is larger.

At the last meeting of the Incorporators, it was the feeling of those present that the psychological effect would be good if the House of Delegates could authorize a sizeable deposit for working capital. Since expenses are limited the first year to 35% of net premium income and to 30% of the second year, the chance of loss is small; and furthermore, Section 7, sub-section 6, provides that working capital may be repaid with interest whenever the condition of the corporation, in the opinion of the Commissioner, makes such repayment possible.

Previously it had been determined by this House that the Service Plan should be state-wide in its application. At the same time the Commissioner will require in the beginning (Section 7, sub-section E), a statement of the county or counties in which the corporation expects to operate. It was the consensus of opinion of the Incorporators that the plan be limited in the beginning to those counties in which 51% of the resident Doctors of Medicine had indicated their agreement to render the medical services. It therefore becomes vitally necessary when this House approves this report that County Medical Societies proceed promptly, and preferably within ten days, to obtain the signatures of 51% of the doctors in their communities to the application and agreement to become participating physicians.

In summary and on the advice of our legal representative, there is now desired:

1. Approval of action so far taken by the Incorporators.
2. That the form submitted, modeled on the Iowa Plan, be made the basis for application for approval by the Commissioner with such changes as he sees fit to insert.
3. That income brackets of \$1,500-\$2,500 formerly approved by the House be raised to \$2,000 and \$3,000, if requested by the Commissioner.
4. Action by the House that the Trustees be allowed to loan to the Tennessee Medical Service Corporation as large a sum as possible and consistent with their judgment.
5. Decision and instruction by the House be given that in application to the Commissioner for a charter to begin operation, that requests be limited to those counties where 51% of participating physicians have indicated their willingness to participate.

**THE SPEAKER:** That is referred to the proper committee.

We now wish to have the reports of the various reference committees.

#### REPORT OF THE COMMITTEE ON OFFICERS' REPORTS

**DR. W. J. SHERIDAN** (Chattanooga): Mr. Speaker, this is the report of the Committee on Officers' Reports:

Your Committee has reviewed the report of the Board of Trustees and is of the opinion that they have discharged their duties faithfully and efficiently.

Examination of the audit of finances made by Osborn & Page discloses that the finances of this organization are being adequately handled and administered, and the gain of income over expenditures netted an appreciable amount.

The Report of the Secretary-Editor is complete in detail and reflects substantial financial increase over the previous year.

Respectfully submitted,

(Signed) **W. J. SHERIDAN, M.D.** (Chmn.)

**WEBB KEY, M.D.**

**O. REED HILL, M.D.**

**THE SPEAKER:** What shall we do with this report?

**DR. R. B. WOOD** (Knoxville): I move it be accepted.

**DR. J. B. STANFORD** (Memphis): I second the motion.

**THE SPEAKER:** Any discussion? Those in favor say "Aye"; opposed, "No." The motion is carried and it is so ordered and the report will be published in the Journal.

#### AMENDMENT TO THE CONSTITUTION

The proposed amendment to the Constitution which admits medical officers of the Veterans Administration to Associate Membership, on the same terms as medical officers of the Army, Navy and Public Service, was brought up.

Moved by Dr. Arthur Porter, Jr., seconded by Dr. J. B. Stanford, voted and carried. Final action on this amendment to the Constitution will be taken at the 1948 meeting.

#### NEW BUSINESS

##### Atomic Energy

**DR. R. B. WOOD:** Mr. Chairman, I have a resolution I should like to present. As you all know, in the neighborhood of Knoxville, approximately thirty miles away, is located Oak Ridge, Tennessee, which is the seat of the production of atomic energy; and those of you who know your physics or have heard lectures on the development of isotopes know that the life cycle, the one-half life cycle, of isotopes is very short. For that reason, for the complete investigation of their use in clinical medicine it is necessary that there shall be located an investigation center closely enough to the source of their production in order that they can be given a fair trial.



It is the opinion of the physicists at Oak Ridge, and of the medical profession up in our area, that it would be a highly desirable thing to have located in connection with some hospital or some institution a place where such investigations might take place. Knowing that it would be far better to have such a hospital in connection with some state institution of learning than it would be to have it directly under governmental supervision, we have prepared this resolution for your consideration:

"Whereas, There has been established at Oak Ridge, Tennessee, in close proximity to the University of Tennessee, a plant devoted to the production of atomic energy and its by-products; and,

"Whereas, The use of isotopes in experimental and therapeutic medicine is now in its infancy and probably on the horizon of new development; and,

"Whereas, A one-half life cycle of many of these isotopes is so short as to prevent their being sent to distant laboratories, and makes desirable a properly located center for experimental purposes; and,

"Whereas, Facilities for experimental work in physics and chemistry are already established; be it

*"Resolved*, That we, the House of Delegates representing the profession of medicine of the State of Tennessee, do hereby request the trustees of the University of Tennessee to appeal to the Commission of Atomic Energy to establish facilities at the Knoxville Division of the University of Tennessee for the purpose of investigating the diagnostic and therapeutic possibilities of atomic energy in medicine along with their researches in physics and chemistry."

Mr. Chairman, I move the adoption of the resolution.

(The resolution was referred to the Resolutions Committee, Dr. Shofner, Acting Chairman.)

THE SPEAKER: Any other unfinished business? I recognize Dr. Jere Crook.

DR. JERE L. CROOK (Jackson): Mr. Chairman, being a timid man, it is embarrassing to have to appear before you so often, but I have had the distinction and pleasure of facing forty or fifty women in the Ladies' Auxiliary, and I told them that every doctor that I had seen here had out-married himself. That set pretty well with them.

They asked me to bring this before you. They have a fund already started of one thousand or fifteen hundred dollars as a loan fund for deserving students of medicine, and they said they felt that the House of Delegates could meet them half way and help them out and participate with them in this very laudable undertaking.

I told them I was very glad to present it to the House, and we will get the details later. As I say, the Ladies' Auxiliary has already started a fund of several hundred dollars as a loan fund, which is self-perpetuating—it comes back—and they want the House of Delegates to participate in this with them.

THE SPEAKER: Will you make a motion?

DR. CROOK: I move that we cooperate with the

Ladies' Auxiliary and meet them half way with this fund.

THE SPEAKER: What is it for?

DR. CROOK: To loan to worthy students, to help them through school.

THE SPEAKER: Medical school?

DR. CROOK: Yes, medical school.

DR. HIRAM A. LAWS, JR. (Chattanooga): I second the motion.

DR. R. B. WOOD (Knoxville): Since it involves a matter of finance, I move it to be referred to the Board of Trustees.

THE SPEAKER: It has to go to the committee first and come back. It goes to this same committee. Dr. Shofner, do you understand the motion? If not, you can get it from the ladies.

DR. SHOFNER: That motion was to appropriate funds.

DR. CROOK: Matching what they have.

DR. SHOFNER: That is right. I understand.

DR. ERNEST G. KELLY (Memphis): Mr. Chairman, I should like to say one thing on that motion if it is going to be referred. I talked to Dr. Hyman a short time ago about a friend of mine who had died and left some money he wanted to leave as a loan fund, and Dr. Hyman said, "Don't leave it a loan fund; we have more loans now than we can do anything with. If you are going to make a scholarship, that is one thing; but as for a loan fund, the government will do all they want, particularly if they are GI's, and a great number of them are."

I think if we are going to do anything, it ought not to be a loan fund, but a scholarship, and give it to some deserving individual each year. That is the information I got from the Dean of our Medical School here.

THE SPEAKER: We will discuss that when the motion comes back.

Any other new business?

What time shall we meet this afternoon?

DR. WILLIAM C. CHANEY (Memphis): Mr. Speaker, before you adjourn I should like to say something about the National Physicians Committee. At 11:30 Mr. M. H. Peterson of the National Physicians Committee will give a talk in the next room. Since that Committee is being supported by all of us, I should like to urge every delegate to go in and hear what he has to say so that this afternoon we will be in a mood to discuss our attitude toward this National Physicians Committee. I think the more you learn about what they are doing, the more enthusiastic you will be over it.

DR. W. L. WILLIAMSON (Memphis): I want to remind you that we are inviting all the House of Delegates to have luncheon with us at 12:30. You will find the room posted, and we will be glad to see you at 12:30. (Applause.)

THE SPEAKER: We are going to meet at 2:00 o'clock this afternoon. Please take notice and everybody be here, for we expect a right lively session.

(The meeting adjourned at 10:25 o'clock.)

### WEDNESDAY AFTERNOON SESSION

APRIL 9, 1947

The third session convened at 2:10 o'clock, Dr. E. R. Zemp, Speaker of the House, presiding.

THE SPEAKER: The House will please come to order.

We are going to begin where we left off this morning, and we will first take up the report of the Committee on Reports of Committees.

Dr. W. O. Baird, speaking on a point of personal privilege, asked that careful consideration be given the matters to be discussed. The formation of a Medical Service Corporation will effect us now and will have its influence on our successors and the millions of citizens of Tennessee.

THE SPEAKER: Called for the report of the Committee on Reports of the Committees.

#### REPORT OF THE COMMITTEE ON REPORTS OF COMMITTEES

DR. J. B. STANFORD (Memphis): Mr. Speaker, Members of the House of Delegates, your Committee on Reports of Committees recommends the acceptance of the Committee in Rural Health, and it advises that the changes suggested by that Committee be made. You remember, Dr. Harris suggested that the Board appoint three more members, making it six instead of three, and that it supply expenses when it was necessary to go to distant places for meetings.

We move the acceptance of that report.

DR. WILLIAM BRITT BURNS (Memphis): I second the motion.

THE SPEAKER: Without objection, it will be accepted.

DR. STANFORD: As usual, the Committee on Public Policy and Legislation has done excellent work and has made a good report. We recommend its acceptance.

THE SPEAKER: Any objection? Without objection, it is so ordered.

DR. STANFORD: We recommend the acceptance of the report of the Committee on Postgraduate Education and suggest that the Committee be commended on its excellent work.

THE SPEAKER: Any objection? If not, it is so ordered.

DR. STANFORD: We recommend the acceptance of the report of the Insurance Committee.

THE SPEAKER: If there is no objection, it is so ordered.

DR. STANFORD: We recommend acceptance of the report of the Cancer Committee and think that this Committee should be considered for its activity. It has been more active than any other committee since I have been in the House.

THE SPEAKER: Without objection, it is so ordered.

DR. STANFORD: We recommend the acceptance of the report of the Committee on Postwar Planning and advise the discharge of that Committee. We also believe that this House of Delegates should

instruct the Secretary to write a letter to Dr. W. C. Dixon thanking him for his work on this Committee, and especially for his efforts on the Procurement and Assignment Committee of this state.

THE SPEAKER: If there is no objection, it is so ordered. The Secretary will please take note.

DR. STANFORD: We recommend acceptance of the report of the Committee on Medical Education.

THE SPEAKER: Without objection, it is so ordered.

DR. STANFORD: We recommend the acceptance of the report of the Committee on Scientific Work and suggest that they be commended for an unusually good program for this meeting.

THE SPEAKER: Without objection, it is so ordered.

DR. STANFORD: The majority of this Committee, Dr. D. W. Smith and the Chairman, recommend the acceptance of the report of the Committee on Prepayment Plans for Medical and Hospital Services, and also recommend the changes suggested by the Incorporators.

Dr. A. M. Patterson submits the following minority report. He recommends—

1. That Dr. R. B. Wood and his Committee be commended for the work they have done;

2. That the prospectus be placed before the component societies for their consideration so that, if desired, they may instruct their delegates; and

3. He recommends that at present the adoption of this plan is out of order and that it be tabled until the component societies have opportunity to make recommendations.

Respectfully submitted,

(Signed) A. M. PATTERSON, M.D.

D. W. SMITH, M.D.

JAMES B. STANFORD, M.D. (Chmn.)

DR. WILLIAM BRITT BURNS (Memphis): I move the acceptance of the majority report.

DR. H. B. EVERETT (Memphis): I second the motion. It is to be referred back to the component medical societies.

DR. STANFORD: No, that is the minority report.

DR. EVERETT: The majority report, Mr. Speaker, is the one that was recommended by the Committee, and that is Dr. Burns' motion, that we adopt the majority report. This is why I seconded it.

#### DISCUSSION BY:

Dr. Joseph Johnson (Chattanooga)

Dr. A. M. Patterson (Chattanooga)

Dr. Geo. K. Carpenter (Nashville)

Dr. Jere L. Crook (Jackson)

Dr. R. B. Wood (Knoxville)

Dr. W. J. Sheridan (Chattanooga)

Dr. Edward T. Newell, Jr. (Chattanooga)

Dr. Arthur Porter, Jr. (Memphis)

Dr. O. Reed Hill (Lebanon)

Dr. Dana W. Nance (Oak Ridge)

Dr. D. C. Seward (Nashville)  
 Dr. J. B. Stanford (Memphis)  
 Dr. E. T. Newell (Chattanooga)  
 Dr. John B. Steele (Chattanooga)  
 Dr. W. C. Chaney (Memphis)  
 Dr. Dale Brown (Mosheim)  
 Dr. J. T. Moore (Algood)  
 Dr. N. S. Shofner (Nashville)

#### THE SPEAKER

Dr. J. O. Manier (Nashville)  
 Dr. A. M. Patterson (Chattanooga)

DR. SMITH: Mr. Chairman, I would like to move to amend the motion before the House, that the Board of Incorporators bring to this body at its next regular meeting, or a called meeting, contracts agreed upon by three old-line insurance companies.

(The motion was seconded by Dr. Stanford.)

#### DISCUSSION OF THE AMENDMENT BY:

Dr. Hiram A. Laws (Chattanooga)  
 Dr. Dana Nance (Oak Ridge)  
 The Secretary

During the discussion Dr. R. B. Wood pointed out that the amendment was impossible, "Contracts agreed upon by three old-line companies." You are not specifying there what you want covered. We as Incorporators have no idea as to what you want a contract on, what you want covered. Are you accepting what has been done so far as a basis, or do you want them to formulate a contract?"

Dr. Wood read a letter written to the Chairman of the Incorporators by a representative of one of the old-line companies. This letter told what the company of the writer would do, but it emphasized the fact that the writer was speaking for his company only. Other companies might offer similar plans but the writer could not speak for any other company.

President Franklin B. Bogart assured the House that as President of the Association it would be his privilege and duty to carry out the will of the House. He therefore favored Dr. Smith's amending motion to submit insurance plans to the County Societies before the House approves either the majority or minority report of the Committee.

A vote was taken.

THE SPEAKER: I think the majority has carried. I hear no request for a division.

We will now stand adjourned until 9:00 o'clock in the morning.

(This meeting adjourned at 3:45 o'clock.)

#### THURSDAY MORNING SESSION

APRIL 10, 1947

The meeting convened at 9:30 o'clock, Dr. E. R. Zemp, Speaker of the House, presiding.

THE SPEAKER: Without objection, we will proceed with a little unfinished business before we take up the main business of the day as prescribed by the By-Laws.

We will appoint Dr. Chaney as a Committee to escort Dr. Hamilton into the meeting. Tell him his presence is immediately desired.

In the meantime, while we are waiting for Dr. Hamilton, we are going to hear from Dr. Bogart. Will you please come forward and give us a few remarks? Dr. Bogart, as you know, is your President for the ensuing year. (Applause.)

DR. FRANKLIN B. BOGART (Chattanooga): Mr. Speaker, I had not anticipated the responsibility of making a speech at this time. I will be glad to fill in for a minute or two until I see Dr. Hamilton coming through the door—and even after last night's session I can still see that far.

I, of course, appreciate the honor and will do everything I can to try to support the organization this next year. As I interpret the Constitution, it says one duty of the President is to visit among the county societies. I am going to visit every one I can. I am not going to wait for a special invitation, and if I come unexpected and unasked, with only a few hours' notice, I do not want to be treated as an honored guest but to come in and be one of you and see what that group is doing, and to help if I can to carry inspiration from a well-organized group to some of the counties that may not be so well organized.

I know all of you who are wheel horses of organized medicine know that if you do not have a good county society, you do not have a good state organization. In our home county I know we have to "get religion" over again, so to speak, and get more active in the scientific aspects of our programs, or we are not going to attract and hold the attention of the younger men as they are coming on.

I think all of the younger men ought to be interested in medical organization work, but a great many of them are interested in scientific work, and I hope that we can emphasize that particular feature this next year. (Applause.)

THE SPEAKER: Dr. Hamilton, will you please come forward?

(The audience arose and applauded as the President, Dr. C. M. Hamilton, entered the meeting.)

DR. C. M. HAMILTON (Nashville): I have a few things in mind that may be worth consideration, and maybe not. I do not know how well the functions of the Rural Health Committee are defined. I do not know whether Dr. Harris knows what the Rural Health Committee is supposed to do, but I had in mind that it would be a good idea to get the Rural Health Committee and other people who are interested in rural health to formulate a Rural Health Council along the lines of the Council that has been formulated by the American Medical Association. That Council, I think, should be composed chiefly of doctors from the Rural Health Committee and the leaders of farm organizations who can go over the state and educate the people on studying the needs of rural health.



I talked to Mr. York yesterday, the Secretary of the Farm Bureau Federation, and he attended this meeting. I thought this Committee could call a conference and decide among themselves what would be the best thing to do. I thought they might put on sort of an educational campaign and tell the farmers about our insurance plans or any plans we have to improve the health of the community.

I was surprised to learn recently that farmers have more accidents than people in industry. They say that the fatal accidents on farms are 53 per 100,000 people every year, 53 out of every 100,000 farmers have fatal accidents on farms, whereas the figure in industry is 19 out of every 100,000. I was amazed at that.

I think there are a lot of things we can do to educate the people. I think the schools ought to be instructed to teach more about sanitation, first aid, home nursing, and things of that kind.

Another thing that I want to call your attention to is that I recently have had some communications from the State Nurses Association and the State Hospital Association. They want to put on a recruitment campaign for the schools of nursing. I know everyone realizes that we need student nurses. They wanted this Society to select a member to serve on a committee to put on this campaign. They also wanted the State Medical Association to furnish them \$1,000 to help do this work. They estimate it will take \$15,000 to conduct the campaign.

I had in mind that if you thought it worth while, we might consider having our Legislative Committee approach the Legislature next year with the idea of maybe giving some scholarships to the rural people to go to medical school, with the idea that they might be required to go back and practice three to five years in the rural sections of the country. I give you that idea. If you think it is worth anything, all right; if not, just throw it out the window; but that is the plan that is being adopted by the Mississippi State Society, and they think pretty well of it. They have had it just one year and do not know what the outcome will be at all. (Applause.)

THE SPEAKER: Dr. Hamilton, we hope you will not sink into that desert of ubiquitous desuetude which some of the past Presidents have sunk. You are tall enough to keep your head above the marsh, so do it.

We have a few reports of committees.

DR. ARTHUR PORTER (Memphis): Mr. Chairman, I move that each county society be requested to appoint a Rural Health Committee to take care of some of those problems.

THE SPEAKER: That is a little bit out of order, but it is a good thing. I think I will waive the technical part of this and ask if there is a second to that motion.

(The motion was seconded by Dr. Stanford and Dr. Chaney.)

THE SPEAKER: All in favor say "Aye"; opposed, "No." So ordered.

#### REPORT OF COMMITTEE ON RESOLUTIONS

DR. W. C. COLBERT (Memphis): Mr. Chairman, the resolution introduced by Dr. R. B. Wood in regard to atomic energy is approved by the Committee, and I move you, sir, that it be approved by the House of Delegates.

(The motion was seconded by Dr. H. B. Everett and carried.)

DR. COLBERT: With regard to the resolution by Dr. Jere Crook in regard to matching the funds of the Woman's Auxiliary for a fund to loan to medical students, the Committee is of the opinion that while the objective is a worthy one, it is not within the province of the Medical Association to appropriate its funds for this purpose. Therefore, the Committee disapproves. I move you, sir, that that be disapproved.

(The motion was seconded by Dr. Everett, put to a vote and carried.)

DR. COLBERT: The Committee approves the resolution offering confidence in and approval of the National Physicians Committee. I move its approval.

(The motion was seconded by Dr. J. B. Stanford, put to a vote and carried. Dr. Everett then moved the adoption of the report as a whole. The motion was seconded and carried.)

#### REPORT OF COMMITTEE ON AMENDMENTS TO CONSTITUTION AND BY-LAWS

THE SPEAKER: Has the Committee on Amendments to Constitution and By-Laws any report to make? The Chairman is not present, but those By-Laws certainly need adjusting. Is anyone from that Committee present?

DR. C. V. CROSWELL (Memphis): Mr. Chairman, Members of the House: Dr. Wood is Chairman of that Committee. We only disapproved of one committee, the Committee on Fractures. That is the only one that has not been meeting and sending in reports, and we thought we would drop that and the others we suggested be continued.

THE SPEAKER: What will you do with the Committee on Fractures?

DR. WOOD: We thought it could be discontinued. We all decided there wasn't any use of having it. They have not been making any reports on it, anyway, and we decided just to discontinue that Committee. That is the only one we voted to discontinue.

THE SPEAKER: What will you do with it?

DR. CROSWELL: We move we discontinue the Committee on Fractures.

(The motion was seconded by Dr. Hiram A. Laws, Jr.)

THE SPEAKER: All in favor say "Aye"; opposed, "No." It is so ordered.

DR. HARDY: Mr. Chairman, this Committee on By-Laws considered the committees that are printed in the book. Those are the standing committees. A number of other committees have been created by action of the House of Delegates, and some of them could be dropped. The Committee on Prepayment Plans for Medical and Hospital Services is a special committee. It could probably be discontinued inasmuch as their work has been completed and the Committee discharged.

There is also a Committee on Postwar Planning which has been discontinued, I think. Those are special committees of this House of Delegates. The committees have made their final reports, and I think we should go on record as dropping them.

THE SPEAKER: I would entertain a motion that you give the Board of Trustees authority to drop those committees that have lost their usefulness or seem now to be unnecessary.

DR. R. B. WOOD (Knoxville): Mr. Chairman, I so move.

(The motion was seconded by Dr. W. C. Chaney.)

THE SPEAKER: Any discussion? All in favor say "Aye"; opposed, "No." The motion is carried.

DR. CROSWELL: I move that Article IV, Section 3, of the Constitution be amended by the insertion of the words "Veterans Administration," so that said section will read when amended: "Associate Members shall be commissioned officers in active service of the United States Army, Navy, Public Health Service, and Veterans Administration residing in the state who are elected to membership by a component society and certified to the Secretary of the State Association as an Associate Member."

DR. H. B. EVERETT (Memphis): Mr. Speaker, I believe it would be well for us, while we are amending the Constitution on this subject, to add "Junior Members" to include interns and senior students in medical schools. The American Medical Association, I believe, has already taken such action, and some counties have; and if there is no objection, I should like also to add "Junior Members," which carries with it here in our county a very small fee.

THE SPEAKER: Do you make that in the form of a motion?

DR. EVERETT: Yes, sir.

DR. ARTHUR PORTER (Memphis): I will second the motion.

THE SPEAKER: Gentlemen, you have heard these amendments to the Constitution. They will be voted on next year.

We have a communication here that I think we should read before this body.

DR. HARDY: This letter is from Dr. Talbot, who is the Secretary-Treasurer of the Louisiana State Medical Society. It is dated April 3, 1947, and was sent to me as Secretary of the Tennessee State Medical Association.

(Dr. Hardy read Dr. Talbot's letter.)

The letter points out that under public law 725 (Hill-Burton Act) a Hospital Council was created. The personnel of this Council was not acceptable to the Louisiana State Medical Association. Following the action taken below, letters were written to the Tennessee Senators and Representatives. From their replies it was learned that the personnel of the Council was not subject to confirmation by the Senate, so nothing could be done toward changing the members of the Council.

During discussion by Dr. H. A. Laws he made a motion that we give the purpose of this letter our moral support, through our senators, through our societies and any other way.

The motion was seconded by Drs. W. C. Chaney and J. B. Stanford.

Dr. N. S. Shofner offered an amendment to the effect that "we petition our senators and representatives specifically to have this matter changed."

The amendment was accepted by makers and seconds of original motion.

Discussion by:

Dr. R. B. Wood (Knoxville)

Dr. J. B. Stanford (Memphis)

Dr. H. A. Laws, Jr. (Chattanooga)

Dr. R. H. Hutcheson (Nashville) was asked for information on this Hospital Council.

Question put to vote and carried.

DR. H. B. EVERETT (Memphis): Mr. Speaker, the Secretary had a communication which he read in the general session from our friend, Dr. West, who was unable to be with us at that time on account of ill health. I would like very much to see this House, through the Secretary, express their deep regret at Dr. West's not being able to be here at this time, and their hope for his rapid recovery. I so move.

(The motion was seconded by Dr. Laws, put to a vote and carried.)

#### VOTE OF THANKS TO THE MEMPHIS AND SHELBY COUNTY MEDICAL SOCIETY

DR. HIRAM A. LAWS, JR. (Chattanooga): On behalf of the Tennessee State Medical Association, I would like to move that we extend a vote of thanks to the people of Memphis, to the Society of Shelby County and the state, for the wonderful invitation and the wonderful time they have given us down here.

DR. R. B. WOOD (Knoxville): For one time, I would like to support Dr. Laws.

THE SPEAKER: All in favor say "Aye"; it is unanimously carried.

The next thing is the place of meeting and the time of next year's meeting.

#### PLACE OF NEXT MEETING

DR. N. S. SHOFNER (Nashville): Mr. Speaker, I think I can assume the responsibility for saying that the Nashville Academy of Medicine would welcome the State Medical Association in Nashville, and we extend an invitation to meet with us next year.

THE SPEAKER: It is moved and seconded that we meet next year at Nashville, Tennessee, at the regularly appointed time. All in favor say "Aye." It is carried unanimously.

### ELECTION OF OFFICERS

I think that clears up the board. Let us state when the officers are elected. We are supposed to have them in here to tell us a little something about the wonderful things they are going to accomplish this next year, so please do not rush out.

We will now hear the report of the Nominating Committee, Dr. John B. Steele of Chattanooga, Chairman.

DR. JOHN B. STEELE: Mr. Speaker, Gentlemen of the House: The Speaker, as I said yesterday morning, requested the Nominating Committee to meet immediately following our morning session Wednesday, and we met and every part of the state was represented. We were deeply chagrined and apologize most sincerely that two of our members were not present. We had no idea they would not be here. We thought they simply were busy or did not care to attend the meeting, and if anyone was hurt, we certainly wish to apologize.

Your Committee makes the following nominations:

President-Elect, Dr. H. W. Qualls of Memphis.

THE SPEAKER: Are there any other nominations for President-Elect?

DR. ERNEST G. KELLY (Memphis): Mr. Chairman, I move that Dr. Qualls be elected by acclamation.

(The motion was seconded by Dr. Hiram A. Laws, Jr.)

THE SPEAKER: All in favor say "Aye"; opposed, "No." It is so carried.

DR. STEELE: Vice-President for West Tennessee, Dr. Jack Thompson of Jackson.

THE SPEAKER: Are there any other nominations?

DR. J. B. STANFORD (Memphis): I move that Dr. Jack Thompson be elected by acclamation.

THE SPEAKER: If there is no objection, I am going to put the question. All in favor of Dr. Jack Thompson being Vice-President for West Tennessee say "Aye"; opposed, "No." It is so carried.

DR. STEELE: Vice-President for Middle Tennessee, Dr. Leo Harris, Sr., of Lawrenceburg.

THE SPEAKER: Any other nominations? If not, all in favor say "Aye"; opposed, "No." So ordered.

DR. STEELE: Vice-President for East Tennessee, Dr. Leo K. Gibson of Johnson City.

THE SPEAKER: Any other nominations? All in favor say "Aye"; opposed, "No." So ordered.

DR. STEELE: Secretary-Editor, Dr. W. M. Hardy.

THE SPEAKER: Any other nominations or objections? All in favor say "Aye"; opposed, "No." So ordered.

DR. STEELE: Trustee, Dr. Burton L. Jacobs of Chattanooga.

THE SPEAKER: Any other nominations? All in favor says "Aye"; opposed, "No." So ordered.

DR. STEELE: Speaker of the House, Dr. E. R. Zemp of Knoxville.

DR. HARDY: Are there are other nominations? If there are no other nominations, those in favor of electing Dr. Zemp make it known by saying "Aye"; opposed "No." He is elected.

THE SPEAKER (Dr. Zemp): Gentlemen, I thank you from the bottom of my heart. I will try to continue to be a fairly good Speaker of the House.

DR. STEELE: We had to nominate three members for the Public Health Council from West Tennessee and three from East Tennessee with the understanding that the Governor appoints one of these on the Public Health Council. For West Tennessee we nominate Dr. Jack Thompson, Dr. Walter Owsler, and Dr. Malcolm Tipton.

THE SPEAKER: Any other nominations? All in favor say "Aye"; opposed "No." So ordered.

DR. STEELE: For East Tennessee, Dr. R. B. Wood, Dr. Joseph W. Johnson, Jr., and Dr. W. E. Garrett.

THE SPEAKER: Any other nominations from East Tennessee? All in favor say "Aye"; opposed, "No." So ordered.

There was some confusion as to whether a delegate to the American Medical Association or an alternate should be nominated. Some were of the opinion that the alternate, E. T. Newell automatically succeeded Delegate E. G. Wood, deceased. The Speaker so ruled.

Others thought that the House should elect a delegate to the American Medical Association and retain E. T. Newell as alternate.

The question was discussed by:

Dr. John Steele (Hamilton)

The Speaker (Knox)

The Secretary (Davidson)

Dr. H. A. Laws, Jr. (Hamilton)

Dr. J. B. Stanford (Shelby)

Dr. R. H. Hutcheson (Davidson)

Dr. W. L. Williamson (Shelby)

Dr. H. B. Everett (Shelby)

Dr. H. Dewey Peters (Knox)

The ruling of the chair was appealed from but sustained by a 27 to 11 vote.

Dr. R. B. Wood (Knox) was nominated alternate to the American Medical Association by Dr. H. A. Laws, Jr. Moved by Dr. C. H. Heacock that nominations close. Motion seconded and put to vote and carried. Dr. R. B. Wood was declared elected alternate to the delegate to the American Medical Association.

DR. N. S. SHOFNER (Nashville): Mr. Speaker, if I am not out of order, I would like to call the attention of the Delegates to the fact that Dr. W. P. Wood of Knoxville has lost two very fine sons, one of whom was a member of this Society, the Delegate we have just mentioned, and I should like to make a motion that we express, through the Secretary, our sympathy to Dr. Wood in his bereavement.



DR. STANFORD: I would like to second the motion.

THE SPEAKER: You have heard the motion. It needs no discussion. All in favor say "Aye." The Secretary is so instructed.

THE SPEAKER: Dr. Stanford, will you escort Dr. Qualls in, please?

DR. H. W. QUALLS (Memphis): Members of the House of Delegates, you can guess that this came as a great surprise to me. It was William Shakespeare who said, "Some men are born great, some achieve greatness, and some have greatness thrust upon them." I feel at this time that I have had greatness thrust upon me.

I wish that I were capable of making an acceptance speech that would show my appreciation of the honor that you have conferred upon me. I know that I am going to have a hard road to travel because I am following some of the finest men that the State of Tennessee has ever pro-

duced, as President of this Society. I think of you men as exquisite architects, forever building on the castle of happiness. Out of the losses and crosses and wrecks and ruins that fate may throw about you, you can always see the silver lining to every cloud. You can console your patients and console your neurotics, and thus live on until life's rugged journey ends.

I deeply appreciate the honor, and I feel that I am going to have your whole-hearted support. I thank you! (Applause.)

THE SPEAKER: We will ask Dr. Stanford to escort Dr. Qualls to the General Session.

Is there are further business to come before the House?

DR. JOSEPH W. JOHNSON, JR.: I move we adjourn.

(The motion was seconded and carried, and the House of Delegates adjourned at 10:30 o'clock.)

## INDEX TO PROCEEDINGS OF THE HOUSE OF DELEGATES

Tuesday Afternoon Session	279	New Business (Amendment to Constitution)	289
List of Certified Delegates	279	Announcements	290
List of Officers of the Tennessee State Medical Association	279	Wednesday Morning Session	290
Past Presidents	279	Reports of Councilors	290
Nominating Committee	280	Committee Reports	291
Reference Committees Appointed	280	Councilors' Report	292
Treasurer's Report	280	Committee on Prepayment Plans for Medical and Hospital Services	292
Report of Examination for Year Ended December 31, 1946	280	Report of the Committee on Officers' Reports	294
Report of Secretary-Editor	283	Amendment to the Constitution	294
Report of Delegates to the American Medical Association	285	New Business (Atomic Energy)	294
Report of Committee on Scientific Work	285	Wednesday Afternoon Session	296
Report of Committee on Public Policy and Legislation	285	Report of Committee on Reports of Committees	296
Postgraduate Instruction Committee	286	Thursday Morning Session	297
Report of Insurance Committee	288	Report of Committee on Resolutions	298
Report of Cancer Committee	288	Report of Committee on Amendments to Constitution and By-Laws	299
Report of Postwar Planning	289	Vote of Thanks to Memphis and Shelby County Society	300
Report on State Tuberculosis	289	Place of Next Meeting	300
Report of Medical Education	289	Election of Officers	300
Report of Veterans Committee	289		
Report of the Rural Health Committee	289		

# *Have You Registered?*

About 1,950 doctors of medicine have registered in the state under the new act governing the practice of the healing arts in Tennessee. This registration closes September 28, 1947. Failure to register will result in forfeiting your license.

It is not known how many physicians are practicing in the state. The estimate is somewhere between 2,100 and 2,400. Every effort has been made by the Licensing Board to impress upon every doctor of the state the importance of registering. We are adding this last call. If you are not registered under the law, write at once to R. H. Hutcheson, M.D., Executive Secretary, Licensing Board for the Healing Arts, 420 Sixth Avenue, North, Nashville 3, Tennessee.

# THE JOURNAL

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W. M. HARDY, M.D., Editor and Secretary

SEPTEMBER, 1947

## EDITORIAL

### POLITICAL MEDICINE AGAIN

Even during the Congressional recess, the proponents of Political Medicine are busy as usual. Late August and early September brought two developments worthy of mention.

The U. S. Army issued a news release dated August 27. We quote it in full.

WAR DEPARTMENT  
PUBLIC INFORMATION DIVISION  
PRESS SECTION  
TEL. RE 6700  
BRS. 2528 AND 4860

August 27, 1947.

*Social Security Mission Departs for  
Tokyo Thursday*

The War Department has announced the Thursday departure of a mission to Japan being sent at the request of General Douglas MacArthur, Supreme Commander for the Allied Powers, to evaluate and to make recommendations regarding measures to achieve a sound social security system for Japan.

Four advance members of the mission departing today by air are prominent health and welfare officials who, it is expected, will be joined at a later date by two other members in addition to Mr. Arthur J. Altmeyer, Commissioner, Social Security Administration. They are: Dr. Joseph W. Mountain and Mr. Burnet M. Davis of the U. S. Public Health Service; Mr. Barker S. Sanders, Social Secur-

ity Administration; and Mr. Francis A. Staten, Public Housing Authority.

General MacArthur, last April, requested that Mr. Altmeyer be invited to head a six-man mission that would visit Japan in September for a period of thirty to ninety days. The mission will consult with Public Health and Welfare Section, SCAP, and will offer technical guidance to the Japanese Committee on Social Insurance and the Japanese Council on Medical Care which are presently engaged in drafting a coordinated national health bill.

The Japanese Workmen's Compensation and Seamen's Insurance Laws have been recently reformed, a Child Welfare Law is now pending, and a National Health Insurance Law passed in 1926 and extended in 1942, covers approximately 42,000,000 Japanese. In March, 1947, the Japanese Diet passed a resolution recommending the extension of the National Health Insurance Law.

It appears from the above that somewhere up the line it has been determined to give Japan a Murray-Wagner-Dingell bill. While the wisdom of such a move will be questioned by some, and while others may think Japan has already been punished sufficiently by American-made atomic bombs, the military powers appear to be determined to establish political medicine in the land of the conquered.

The Army sent this mission to Japan in spite of protests from the House Committee of which Representatives Forrest A. Harness is Chairman. It will be remembered that the Harness Committee is investigating illegal use by Executive Departments of Federal funds for propaganda.

Apparently the Harness Committee smelled some propaganda in the plan to send these men to Japan. The Committee protested, but the Army ignored the protest, and the emissaries of political medicine are in Japan.

The background of the members of the mission is fully known by the Harness Committee. "One of the big questions to be answered in the future is whether Gen-



eral MacArthur had any real knowledge of the composition of the mission or the reputations of the members thereof." The Har-ness report on this Japan incident will be interesting.

The other significant event was Mr. Truman's Labor Day message. On the President's must list of four items, compulsory political medicine holds its place. We consider this as a Presidential promise to support the 1947 version of the Murray-Wagner-Dingell Bill or to introduce another variation. Thanks for the warning!

In this connection we must call attention to two letters published in this issue. Senator H. Alexander Smith, Chairman, Subcommittee on Health of the Labor and Public Welfare Committee, holding hearings on pending medical bills, has written the governor of each state, inquiring how the proposed legislation would affect the various states. Governor McCord requested Commissioner Hutcheson to answer Senator Smith's letter. We are pleased to publish these two letters.

(Copy)

August 7, 1947.

My Dear Governor McCord:

One of the most important matters before the present Congress has been the consideration of a national health policy which will bring about a wider medical service to meet the health needs of our people.

To the end that this subject must be fully investigated, a subcommittee of the Senate Committee on Labor and Public Welfare has been studying the subject for some months. This subcommittee is composed of the following Senators: Senators Ball, Donnell, Pepper, Murray, and myself as Chairman.

In the course of our investigation and hearings, two fundamentally different approaches to the matter have been presented and considered. These respective approaches are covered by bills that were introduced in the Seventy-Ninth Congress and by bills introduced in the Eightieth Congress. Extensive hearings were held last year on the Wagner-Murray-Dingell

Bill, which was one of the measures introduced in the Seventy-Ninth Congress. Extensive hearings have been held this year on S. 1320, introduced in the Eightieth Congress by Senator Murray and others, which bill is the successor of the so-called Wagner-Murray-Dingell compulsory health insurance bill, and on S. 545, introduced by Senators Taft, Ball, Smith, and Donnell.

Supporters of S. 1320 contemplate a nation-wide tax collected by pay roll deductions of workers in industry and other taxes on non-pay roll citizens, in return for which tax the Federal Government assumes responsibility for the over-all medical care of all the people. Provision for certain decentralization of administration is made in the bill.

S. 545, on the other hand, contemplates Federal grants to the several States and challenges the States to develop their own programs for taking care of the health needs of the people within their respective jurisdictions. No special earmarked tax is proposed under the plan.

Among the important questions which enter into the consideration of the bills are:

1. What percentage of the population in the various States is not getting adequate medical care today; and what classes—that is, the very poor, the white-collar class, etc.?
2. What States would approve a compulsory tax plan such as S. 1320 calls for, with a Government supervised medical service? or
3. What States would prefer the S. 545 plan, leaving to the States the determination of policy—that is, compulsory or voluntary group health plans, etc.?

Our subcommittee would be very much aided if we could have a statement covering the situation in your State on these matters, which I assume could be prepared by the health authorities. I should add that under either plan Federal grants-in-aid are contemplated. Under S. 1320, the Federal tax would cover the entire cost, whereas under S. 545 a matching program is contemplated. Copies of S. 545 and S. 1320 are enclosed.

Also as related to these problems, I would appreciate information as to the situation in your State with regard to the following matters:

1. How you handle the health problem in your widely scattered rural areas.
2. How the new Federal aid-to-hospitals program is working.

The assistance of our forty-eight States with respect to this important matter will be greatly appreciated, and I hope you can give us an outline of the situation in your State. In making this request I am acting in the spirit of which I understand is the position of the Governor's Conference—a larger participation by the States in the formulation of important national policies.

Always cordially yours,

H. ALEXANDER SMITH,  
*Chairman, Subcommittee on Health.*

◆  
(Copy)

August 20, 1947.

The Honorable H. Alexander Smith  
Chairman, Subcommittee on Health  
Princeton, New Jersey  
Dear Senator Smith:

Governor McCord has referred to me your letter of August 7 with the request that I answer your letter to the best of my ability.

First, I should like to say that I am a Doctor of Medicine, having graduated from a recognized School of Medicine, University of Tennessee, am licensed to practice medicine in Tennessee, and I have had post-graduate training in Public Health at Johns Hopkins University. I have observed the developing interest in a National Health Program with a good bit of interest and have followed to the best of my ability the various bills that have been introduced into the Congress on this subject. I have read some of the testimony that has been given in Committee hearings, and I am of the opinion that few individuals, either for or against the bill, have been perfectly honest with the people and themselves, or they are grossly misinformed concerning the problems connected with medical care.

One of the primary factors has, I believe, been completely ignored. This fact relates

to medical service as a commodity. Like any other commodity, it cannot be available to all until the supply exceeds, or at least equals, the demand. In the instance of medical care, the supply cannot equal the demand until there exists in the United States qualified practitioners of medicine in number sufficient to provide this service. This statement is so elementary that I am somewhat embarrassed at the necessity of having to make it, and yet I feel it is at the bottom of all our difficulty.

The qualified medical schools of the United States are producing physicians as fast as the available facilities will permit, and since this is not fast enough to supply the demand, the individual physician has a wide variety of choices concerning his location. Being human beings, is it natural that the majority will select that area in which they can do their best work, not only professionally but financially, and I am of the opinion that one is about as important as the other.

There is no type of legislation that can be passed by the Federal Congress under our present constitution that can force any physician to select an area for practice simply because of the fact that the area does not have sufficient medical service available; and even if the constitution permitted it, it still would not work, because it was tried in Russia shortly after the Bolshevik Revolution. Dr. Alexander Roubakine of Moscow, who was at one time director of all medical work in Russia, personally told me that they could not make it work in Russia. The better physicians even in Russia carry on a private practice.

There are two conditions prevailing in a community which preclude a community's attracting qualified medical practitioners: (1) economic, and (2) facilities with which to work. The proponents of the various bills dealing with health service have attempted to solve the first by one means or another, all proposed paying for the medical service in its final analysis. Few have given any consideration to the second factor, and the nearest approach to this has been the recent Act, now Public Law 725; however, this Act is going to fall far short of meeting the need because it

is set up in such a way that the community that is now without services will be unable to meet the matching requirements. The Act will do some good, but when the five-year period has elapsed, and if costs do not increase further, I think it will be found that only about twenty-five per cent of the necessary beds have been provided, and these will be communities that could have provided the beds on their own initiative.

No self-respecting young graduate, other than one that is financially independent, is going to a community to practice medicine when that community does not have the facilities necessary for a respectable practice, and by that I mean a hospital properly equipped. The gentlemen of the Senate and the House of Representatives probably are thinking in terms of the old crossroads physicians who practiced medicine out of a pill bag, and they think all that is necessary is to furnish money, and the doctor will, through some magic, appear in the community and begin work. This cannot be done because times have changed; and today, instead of practicing the art of medicine as was done forty years ago, the physician, who is in truth practicing medicine, is practicing the science of medicine, and no scientific endeavor can be carried on without proper laboratory facilities. Here, I use laboratory in its broadest sense, including all of the modern diagnostic and therapeutic aids.

If you gentlemen persist in a National Health Plan similar to any that have been proposed, you will provide the people of this country who do not now have medical practitioners with a group of practitioners who are finding it extremely difficult to support themselves in the more populous and economically more stable communities. They will gradually migrate to these areas where practically no service is available, and the people will wake up to the realization that they have not secured medical practitioners, but instead they have available a pill peddler. This man may be of some benefit psychologically to those who are not in real need of medical service, but he will be found wanting when confronted with a case of real medical need. If you

think this is an idle statement, I ask you to look into the licensing practice in several of the states, and I would like to cite as an example our own State of Tennessee. During the past four to six years we have had licensed approximately one thousand so-called naturopathic physicians, most of whom never attended any school other than a diploma mill. The recent legislature repealed the Act granting them a license to practice, but the damage has been done, and they are at work in other states securing legislation wherever possible to enable them to practice there. Other conclusive proof of the great shortage that exists in the medical field can easily be ascertained by checking the number of available positions now unfilled in state and local departments of public health. For example, Tennessee had over one hundred physicians employed at the beginning of World War II, and we now have in local health departments less than thirty, in spite of the fact that we are offering double the salary that was offered seven years ago. This, to me, is indicative of the fact that as long as the people are able to pay the present supply of physicians for private work, the physicians will accept that payment in preference to governmental payment even though the governmental payment is greater.

Another incidence that I would like to cite is one of our metropolitan areas in East Tennessee. Both the hospital and the physicians refused to accept government pay on the Emergency Maternal and Infant Care Program, many of them doing the work free rather than accept the \$50.00 fee which was paid by the State from funds made available by the federal government. In this area of approximately eight per cent of the State's population, only the less qualified physician, usually the osteopath, would accept a case.

I haven't a great deal of sympathy with the arguments that have been proposed by the medical profession itself; in most instances, it has been motivated by selfishness. I have heard public talks pointing out what great strides the medical profession has made under the system of free enterprise. I think I am fairly well informed on the progress that has been made



in the field of medicine, and I know of relatively few discoveries of any scientific value that have been made by private practitioners. Most of the discoveries have been made by men in research laboratories who are working for a salary, or by research workers in the Public Health Service, the Army or Navy; however, to be of use to the public, these discoveries must be put to use by the private practitioners.

If I should be asked what one thing is needed most, I would recommend that you concentrate on a bill that will provide preventive public health services and hospital facilities to every community in the United States, and that you leave therapeutic medicine to the private practitioner.

In closing, permit me to suggest that you read with care the Third Intermediate Report of the Committee on Expenditures in the Executive Departments, and I should like to call your special attention to the Subcommittee's final paragraph:

"Suffice it at this time for your committee to report its firm conclusion, on the basis of the evidence at hand, that American communism holds that program as a cardinal point in its objectives; and that, in some instances, known Communists and fellow travelers within the Federal agencies are at work diligently with Federal funds in furtherance of the Moscow party line in this regard.

"Approved:

FORREST A. HARNESS, *Chairman*;

JAMES W. WADSWORTH,

HENRY J. LATHAM,

CARTER MANASCO,

J. FRANK WILSON."

With such a report being in your hands and a matter of record in the Congress, I should think that your committee could do nothing other than recommend that these two bills be consigned to the wastebasket.

Sincerely yours,

R. H. HUTCHESON, M.D.,

*Commissioner.*

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THE AMERICAN ACADEMY OF GENERAL  
PRACTICE

*Officers*

Paul A. Davis, M.D., President, 633 East  
Market Street, Akron, Ohio.

E. C. Texter, M.D., Vice-President, 7457  
Gratiot, Detroit 13, Michigan.

U. R. Bryner, M.D., Treasurer, 413 Medical Arts Building, Salt Lake City, Utah.

Stanley R. Truman, M.D., Secretary,  
1904 Franklin Street, Oakland 12, California.

On June 10 of this year a group of general practitioners from all parts of the United States met at Atlantic City, New Jersey, to formulate organization of the American Academy of General Practice, a group described by Dr. Arch Walls of Michigan, a director of the organization, as "a body to safeguard and further the interests, rights, and privileges of the general practitioner."

He further asserted that the academy "would encourage the general practitioner to improve and extend his education, . . . encourage hospitals to open their doors to the family physician, . . . encourage young medical students to make general practice the foundation of their careers, regardless of the field they wish to specialize in later."

The American Academy of General Practice was not founded to replace or compete with other medical societies or associations. Opposition to specialists is not its aim. Rather, its plan is to cooperate with all existing groups in medicine and fill and brighten that void in which the "cross-roads" doctor finds himself in this day of "modernization."

Many proponents of specialization cry that the general practitioner is "a forgotten man," that he is lost in the frustrations of his family practice, that he is twenty years behind the times. On the other hand, many general practitioners look upon the specialty boards as monopolistic.

This is not a healthy attitude among men of a common profession, and the American Academy of General Practice is the beginning of a concerted move to wipe away this stigma. For the most part the programs of the academy will be educational with topics pitched to the key of G. P.

A recent poll in a leading medical school indicated that ninety per cent of the graduates planned to become specialists. We might think that the schools could be accused of fostering this drift toward spe-

cialization. But wait—an identical poll conducted among freshmen just entering the school disclosed a like ninety per cent headed for a specialty!

The major contributions the general practitioner makes to society is lost sight of in the consistently progressive trend for eye, nose, and throat, brain surgery, gynecology, allergy, and the other fascinating specialties.

One among the major aims of the American Academy of General Practice is to not only defend the general practitioner but to restore him to his rightful place of esteem in the healing arts. One way to accomplish this—and it is most certainly a factor the academy will demand—is reorientation of medical education, emphasizing in schools to a much greater degree than before the theories of preventive medicine and medical economics.

Several states, among them Michigan and California, have made wonderful progress toward this end. The general practitioners of these two states were quicker than we to realize their plight. As a result their programs have been afoot much longer. Already two Michigan hospitals have consulted the Michigan general practice body on altering their staff organizations to include general practice sections.

Tennessee, affording a rich potential for an organization which must rely upon its strength to make itself heard, cannot afford to be asleep at the post.

Here is a quote from the *Detroit Medical News*: "Every general practitioner has a strong obligation to qualify for membership in the American Academy. He should realize that the day when organized medicine was going to do something for him has been too long delayed and there is barely time remaining for him to do something for himself. These academies can only perform effectively if they are representative."

Write today for your application blank. You may apply either to Dr. C. B. Roberts, the Tennessee State Medical Association's Chairman on General Practice, or Dr. Stanley R. Truman, Secretary of the American Academy of General Practice. Dr. Roberts'

address is Rhea Hotel Building, Sparta, Tennessee. Dr. Truman's office address is given at the beginning of this article, or Tennessee Medical Association, 510 Doctors Building, Nashville 3, Tennessee.

## RAMBLING AROUND

By V. O. FOSTER  
Assistant Secretary

### WARREN-WHITE-VAN BUREN COUNTY SOCIETY

Upon invitation by the Warren-White-Van Buren County Medical Society, I spent the week of August 18 in their jurisdiction and successfully arranged a special twelve-week radio health program to be beamed to the elementary schools of Warren, White, Van Buren, and De Kalb Counties. County and city superintendents, supervisors, and teachers in the broadcast area of Station WMMT, McMinnville, were contacted and informed of our desire to make the health program available to the schools. The school administrators were unanimous in their approval and desire to have the broadcasts made a part of their classroom instruction in the subject of health. The problem of securing radios for all of the 168 schools with 9,894 students was a major one. However, arrangements were made through superintendents, Parent-Teacher Associations, and civic clubs in Sparta and McMinnville to provide the necessary radios.

The twelve-week program of radio health education is designed as a supplemental teaching aid in the subject of health and is not intended to replace any part of the school's regular study of the subject. Teacher's Guides will be provided for all elementary teachers in the four counties which will help them correlate the radio programs with their regular health instruction.

The series of programs entitled "Health Heroes" will begin over Station WMMT on Friday, October 3, 9:15 A.M., CST., and will conclude December 19. The programs are prepared by the American Medical Association and are presented by the Tennessee State Medical Association through its

component medical societies as a public service to the schools of Tennessee.

#### DYER-LAKE-CROCKETT COUNTY SOCIETY

The week of August 25 found me in the Dyer-Lake-Crockett Society area in the interest of making "Health Heroes," the radio school health program, available to the elementary schools in the broadcast area of Station WDSG. It was found that approximately 20,000 elementary school children could be reached with the program in Dyersburg and Dyer, Lake, Crockett, Gibson, Lauderdale, and Obion Counties.

I had the opportunity of speaking to an assembly of school administrators of West Tennessee, explaining the contribution the radio program could make to their teachers in teaching the subject of health in their schools. Following their endorsement of the program, arrangements were made to begin the twelve-week series over Station WDSG on February 6. The programs will be sponsored by the Dyer-Lake-Crockett Medical Society and Station WDSG as a public service to the schools in the broadcast area.

#### POSTGRADUATE COMMITTEE

C. H. HEACOCK, M.D., *Chairman*  
4 University Center, Memphis

#### POSTGRADUATE STUDY IN CANCER

The following is the outline just received by the Committee from the Instructor, Dr. Lyndon E. Lee, Jr., of Ann Arbor, Michigan. Many will be interested in reading it over, particularly in northeastern Tennessee where the first circuit will open the middle of September.

##### OUTLINE OF LECTURES ON CANCER

##### *Lecture 1—"Introductory Remarks and Cancer of the Skin"*

- Scope of the cancer problem
- Cancer research
- Vulnerability of all tissues
- Frequency of cancer in the body systems
- Warts, moles, and cancer of the skin
- Classification of skin tumors
- Benign and precancerous lesions—keratoses
- Etiological influences
  - Economics, exposure, employment
- Malignant skin lesions
  - Epitheliomas and melanomas
  - Lymphoblastoma

##### Metastatic neoplasms

Treatment—surgery, X-ray, and radium  
Illustrated—Kodachrome and lantern slides

##### *Lecture 2—"Tumors of the Oral Cavity"*

- General considerations
- Primary disease vs. metastases
- Some remarks on treatment
- Carcinoma of the lip—illustrations and discussion
- Relation to other oral cavity tumors
  - Buccal mucosa
  - Gingival areas
  - Floor of mouth
  - Tongue

Management of oral cancer

Discussion of end results

Illustrated—Lantern slides and Kodachromes

##### *Lecture 3—"Carcinoma of the Stomach"*

- Benign and malignant gastric tumors
- Symptoms and signs
- Carcinoma vs. ulcer
- Diagnostic procedures and the laboratory
- Differential diagnosis
- Gastric analysis
- X-ray
- Gastroscopy
- Peritoneoscopy
- Metastases and evidences of inoperability
- Surgery—its possibilities and limitations
- Curability

Illustrated—Lantern slides

##### *Lecture 4—"Cancer of the Colon and Rectum"*

- Anatomy and physiology
- Pathology—relation of carcinoma to polyps, congenital polyposis and inflammatory lesions—bowel locations

Diagnosis—the physical examination

The anoscope and sigmoidoscope

X-ray

Prognosis

Treatment and its complications

Illustrated—Lantern slides

##### *Lecture 5—"Carcinoma of the Respiratory Passages and Lungs"*

Classification

Upper respiratory passages

Metastatic tumors

Bronchiogenic carcinoma

Adenomas and carcinoma

Atelectasis and carcinoma

Signs and symptoms of lung neoplasm

Diagnosis—the sputum

X-ray and bronchography

Bronchoscopy

Pneumothorax

Thoracotomy

Metastases from lung primary

Treatment: Surgery—thoracotomy, lobectomy, pneumonectomy

Palliative irradiation

Prognosis

Illustrated—Lantern slides



*Lecture 6—"The Lymphomas, Hodgkin's Disease, and the Leukemias"*

Classification of lymphomas

Hodgkin's

Lymphosarcoma

Reticulum cell sarcoma

Giant follicle lymphoma

Symptomatology and diagnosis

Some remarks on chemotherapy

Therapy

Prognosis

The leukemias acute and chronic

Pathology and classification

Symptomatology

Prognosis

Treatment

*Lecture 7—"Tumors of the Female Genital Organs"*

(With special reference to diagnosis of lesions of the cervix and body of the uterus)

Tumors of the external genitalia—differential and diagnosis

Carcinoma of the cervix

Etiology and prophylaxis

Diagnosis—physical examination and biopsy

Clinical types, including carcinoma of the cervical stump

Causes of death

Extensions and prognosis

Treatment

Carcinoma of the body of the uterus

Symptoms and clinical types

Diagnosis—clinical and laboratory

Treatment—radium, X-ray, surgery

Prognosis

Illustrated—Lantern slides

*Lecture 8—"Tumors of the Urinary Organs"*

(With special reference to diagnosis in the male; with some remarks on bone tumors, metastatic and primary)

Tumors of the kidney

Benign and malignant tumors

Symptoms—hematuria, fever, and other systemic manifestations

Diagnosis—examination

The laboratory

X-rays—the pyelogram

Differential diagnosis

Tumors of the bladder

Types and location

Symptomatology

Pathology

Diagnosis—cystograms and cystoscopy

Treatment

Prostatic tumor

Benign hypertrophy, carcinoma, sarcoma

Urethral obstruction

Symptoms and metastases

Treatment—relief of obstruction

Prostatectomy

Radiation

Endocrine substitution

Metastasis to bones and its management

Classification—diagnosis and treatment

Other neoplasms of bone

Illustrated—Lantern slides

*Lecture 9—"Neoplasms and Related Diseases of the Breast"*

A differential diagnosis

Chronic cystic mastitis

Carcinoma—classification and symptomatology

Paget's disease and "inflammatory" carcinoma

Lymphatic drainage of the breast

Clinical management of breast tumors and carcinoma

Diagnosis

Operation

Radiation

Sterilization—rationale and evaluation

Treatment of advanced and recurrent breast cancer with some comments on recent endocrine studies

Illustrated—Lantern slides

*Lecture 10—"Care of the Advanced Cancer Patient"*

Psychological approach

Nursing care and nutrition

Open sores, anemia, and hemorrhage

Control of pain

Local measures

Clinical use and abuse of morphine

Narcotic addiction

Evaluation of newer analgesics

Demerol, metopon, amidone, etc.

## DEATHS

EDWARD WALTER GRIFFIN, M.D.

Edward Walter Griffin, M.D., Townsend; University of Georgia School of Medicine, Augusta, 1900; aged seventy-four; died July 3, 1947, of injuries received in an automobile accident.

## NEWS NOTES AND COMMENTS

The Council on Medical Service of the American Medical Association will hold its Southeastern Regional Conference on October 8, 1947, in Atlanta, Georgia. The states represented in the southeastern region are Alabama, Georgia, Florida, Mississippi, North and South Carolina, and Virginia.

Health problems in the South, rural health problems in the South, and national rural health problems, responsibility of the educator in rural health problems, prepay-

ment medical care plans, industrial health problems, and the general program of the Health Council on Medical Services are the subjects appearing on the program.

In the one-day conference there will be presented a picture covered by the work of the Rural Health Committee, the Educational Committee, and the Public Relations Committee. Members of these committees and others interested in these questions will do well to attend the conference.

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Jefferson C. Pennington, M.D., announces the association of Charles E. Haines, M.D., in the practice of urology, Suite 526, Ben-  
nie-Dillon Building, 700 Church Street, Nashville.

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James N. Thomasson, M.D., announces the opening of his office for the practice of Internal Medicine, 512 Doctors Building, Nashville.

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John D. Young, M.D., announces the opening of his office at 1134 Exchange Building, Memphis. Practice limited to Internal Medicine.

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Duke University and the Staff of Duke Hospital take pleasure in inviting you to attend the Tenth Annual Medical Symposium, to be held in Durham, North Carolina, on Friday and Saturday, October 17 and 18, 1947. The subject of the Symposium this year will be "Gastrointestinal Diseases."

The following speakers will participate in the program, presenting informal discussions of the subjects indicated:

*Friday Morning—Peptic Ulcer*

Dr. Frank C. Mann, Mayo Clinic, Rochester, Minnesota.

Dr. Walter L. Palmer, University of Chicago.

Dr. Leon J. Saul, Philadelphia.

Dr. Owen Wangenstein, University of Minnesota, Minneapolis.

*Friday Afternoon—Ulcerative Colitis*

Dr. J. Arnold Borgen, Mayo Clinic, Rochester, Minnesota.

Dr. Henry W. Cave, New York.

Dr. Richard Schatzki, Cambridge, Massachusetts.

*Friday Evening*

Dr. Stewart Wolf, New York Hospital, "Certain Functions of the Stomach."

Dr. Richard Swett, Boston, Massachusetts, "Surgery of the Esophagus."

*Saturday Morning—Diseases of the Pancreas*

Dr. Mandred W. Comfort, Mayo Clinic, Rochester, Minnesota.

Dr. Robert Elman, Washington University, St. Louis.

Dr. Alexander Brunschwig, University of Chicago.

The Duke-Maryland football game is scheduled for Saturday, October 18. If you wish to obtain tickets, please write directly to the Duke Athletic Office.

Rooms have been reserved at local hotels for physicians attending the Symposium. If you wish to obtain one of these, please write promptly to the manager of the Washington Duke or Malbourne Hotel.

The final program will be sent to you later.

Symposium Committee:

CLARENCE E. GARDNER, M.D.,

MAURICE H. GREENHILL, M.D.,

JEROME HARRIS, M.D.,

JULIAN M. RUFFIN, M.D., *Chairman*.

## WOMAN'S AUXILIARY

Dear Auxiliary Members:

Summer has almost gone, the children are back in school, and the Medical Auxiliary members will be making plans for their meetings for the coming months. May they prove to be inspirational and educational so that when the year's work is finished there will be a feeling of work well done.

Although every phase of the Auxiliary work is equally important to me, I am going to stress organization this month.

At the Auxiliary's twenty-fifth anniversary convention in Atlantic City this past June, the Organization Chairman displayed a map of the States showing the number of counties in each State which are organized

and red dots were put in the unorganized counties. It looked as if many of the States had a bad case of smallpox, for there were so many red spots. Tennessee showed up with a bad case, and needless to say we are not too proud of the many red dots showing up in our State.

If you know a county that could be organized, inform your State Organization Chairman, Mrs. Oscar Nelson, 3601 Hampton Avenue, Nashville, and give the names of those who might invite a group to form an Auxiliary.

We are happy to tell you of a new Auxiliary organized in East Tennessee. It is Roane County Medical Auxiliary, which includes the Oak Ridge physicians' wives. We welcome them and wish them many years of fruitful work and happy fellowship.

Tennessee is well represented in the National Auxiliary this year. Mrs. H. E. Christenberry is on the nominating committee, and Mrs. W. W. Potter is fourth vice-president. Both live in Knoxville. Mrs. Potter, by virtue of her office, will be Organization Chairman of twelve Southern States.

By the time this reaches you we will have had our Fall Board Meeting, which you will hear about next time.

Sincerely yours,

MARY L. (MRS. ROBERT) PATTERSON,  
*President.*

## MEDICAL SOCIETIES

### *Davidson County:*

September 2: "Diseases of the Thyroid," by Dr. N. S. Shofner. Discussed by Drs. Clarence S. Thomas, James C. Gardner, Addison Scoville, Jr., and Barton McSwain.

### *Knox County:*

August 19:

No scientific papers were read. The entire meeting was devoted to discussion of the Academy's Constitution and By-Laws.

## OTHER MEDICAL SOCIETIES

The American College of Allergists announces Fall Graduate Instructional Course in Allergy, under the auspices of the College of Medicine of the University of Cincinnati, November 3-8, 1947. The Netherland Plaza is the headquarters hotel. Lectures will be given in the auditorium of the Medical College. For further information, write Dr. Fred W. Wittich, 423 LaSalle Medical Building, Minneapolis, Minnesota.

The twelfth Annual Meeting of the Mississippi Valley Medical Society will be held in Burlington, Iowa, October 1, 2, 3, 1947. Headquarters at the Hotel Burlington. The meeting will be in the Municipal Auditorium. For further particulars, address Harold A. Swanberg, M.D., F.A.C.S., Secretary, 209 W. C. U. Building, Quincy, Illinois.

## ABSTRACTS OF CURRENT LITERATURE

### ANESTHESIA

By H. M. AUSHERMAN, M.D.  
Medical Arts Building, Chattanooga

Anesthetic Explosions. Philip D. Woodbridge, M.D.  
The Journal of the American Medical Association.  
December, 1939.

Compared with such causes of surgical and anesthesia death as shock, hemorrhage, pneumonia, embolus, overdose of anesthetic, and asphyxia from respiratory obstruction, the occurrence of anesthetic explosion is so small that it is classed with rare complications.

Though the importance of anesthetic explosions is of only minute importance statistically, it is of great emotional importance. The noise, suddenness and publicity associated with an explosion tends to send a wave of fear throughout the country. The emotional response to death from explosion is contrasted sharply to the attitude toward other causes of death during or following operation. The deaths from postoperative pneumonia and from anesthetic and surgical shock are a few hundred times more than from explosion but are accepted with comparative calmness. Of course, any recurring cause of accidental death should be



thoroughly investigated and, if possible, eradicated.

Questionnaires were sent to one hundred physicians specializing in anesthesia in this country and in Canada. The replies indicate the following: ethylene, cyclopropane, and ether (given with oxygen or with oxygen and nitrous oxide in a close system) are considered to be equally dangerous as regards the explosion hazard. Open drop ether is considered to be safer from explosion.

In comparison to other anesthetics, cyclopropane is believed to offer moderate to great advantages to a large proportion of patients.

Among two and one-third million administrations, the explosion rates of ether, ethylene, and cyclopropane were all very low, and all fell in the neighborhood of from two to four per hundred thousand anesthetics. The explosion mortality rates were too low to be figured from the data available, since there were but two deaths in the two and one-third million cases.

## CARDIOLOGY

By J. ALLEN KENNEDY, M.D.  
Bennie-Dillon Building, Nashville

**Rheumatic Heart Disease in Children.** Stanley Gibson, Northwestern University School of Medicine, Chicago. *Postgraduate Medicine* Vol. 2, No. 1, pp. 41-46, July, 1947.

In childhood there are two main forms of heart disease—congenital heart disease and rheumatic heart disease. Of the two, rheumatic heart disease is the more important because it is encountered much more often than congenital heart disease, and congenital heart disease is a relatively static condition. In rheumatic heart disease recurrent periods of activity may result in more serious damage to the heart.

Rheumatic heart disease is not an isolated phenomenon, but is one of several components of the syndrome of rheumatic fever, which include polyarthritis, chorea, rheumatic nodules, annular erythema, and rheumatic heart disease. Several minor manifestations of rheumatic fever are quite frequent but are less important. These include nose-bleed, arthralgia, pallor, slight elevation of temperature, rapid heart action, and anemia.

The author presents three case histories in some detail illustrating different types of rheumatic heart disease in children.

In interpreting the findings in rheumatic heart disease, one is greatly aided if he keeps in mind pathology which is present in rheumatic heart invasion. Almost invariably the first valve involved, and often the only valve involved, is the mitral. Involvement of the mitral valve causes murmurs loudest at the apex. The earliest murmur which is heard after rheumatic invasion is practically always systolic. A little later in the course of the disease an early diastolic murmur may appear,

and still later a late diastolic or so-called presystolic murmur becomes audible. In the instances in which the tricuspid valve is involved, findings are practically indistinguishable from mitral valve involvement.

The only other valve which is frequently involved in rheumatic heart disease is the aortic. This causes a murmur which is diastolic in time with its maximum intensity in the third left interspace at the sternal margin. Occasionally aortic stenosis develops, and in such instances the murmur is heard high up in the right chest, usually in the first and second interspaces.

## GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.  
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**The Management of Ovarian Tumors Complicating Pregnancy.** Henry Falk, M.D., and Irving A. Bunkin, M.D., New York, New York. *American Journal of Obstetrics and Gynecology*, Vol. 54, No. 1, pp. 86, 87, July, 1947.

Ovarian tumors are tumors of the childbearing period and may thus complicate a pregnancy. The presence of an ovarian tumor is, as a rule, no barrier to conception. Dermoid cysts are commonly found complicating pregnancy. Torsion, intracystic hemorrhage, and infection are the commonest complications during pregnancy. Torsion and infection are most frequent during the post partum period. The small ovarian cyst (five centimeters) is usually one of the group of functional cysts and is rarely a cause for concern before or during pregnancy. Larger cysts should be removed when discovered in the nonpregnant patient. All tumors suspected of being solid tumors of the ovary must promptly be inspected. Cases of bilateral ovarian tumors must also be promptly submitted to surgery. Instances of removal of both ovaries during the second and third month with no interruption of the coexisting pregnancy have been reported. The medium-sized and larger ovarian tumors discovered at the onset of gestation may be removed safely during the first trimester of pregnancy under general anesthesia, preferably cyclopropane. Ovarian tumors discovered during the second trimester of pregnancy should be removed at that time. In the elderly primipara, it may be advisable to delay oophorectomy until term, at which time cesarean section may be done. The cyst which makes for a dystocia problem at term should be removed at the time of the elective cesarean section. Where the ovarian cyst is discovered at term and delivery of the fetus through the natural passages is imminent, the ovarian cyst should be removed soon after delivery in view of the potential danger of torsion and infection. All the criteria which influence the handling of ovarian tumors in the nonpregnant apply equally as well

to the pregnant patient. Twelve cases of ovarian cysts complicating pregnancy are reported—seven were dermoids, two of which were bilateral.

## INDUSTRIAL MEDICINE

By JEAN SPENCER FELTON, M.D.  
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**Industrial Health: Conversion and Expansion.** Jimmy L. Pinkston, M.D. *Journal of the American Medical Women's Association.* Vol. 2, p. 273, June, 1947.

The author points out that actual observation of clinical data in industrial medicine began with the ancient Greeks, and although there has been a distinct lag, industrial health development in modern times roughly parallel our country's industrialization. Good plant health means greater profits for industry, and the medical profession must utilize this point as well as other opportunities for stressing the value of the health service. Industrial medicine has long been likened, by the medical profession, unto an illegitimate offspring, and this is somewhat justified in that no other branch of medical practice had offered comparable opportunities for the poorly trained, the lazy, and the maladjusted. This type of physician in industry has been protected by the relative anonymity of being free from the critical scrutiny of patients who come to him wholly from choice.

On the other side of this picture, however, one sees unbounded opportunities for service, to which the author feels the medical profession must be dedicated if its talents and training are to be utilized fully. Employees at various steps in the socio-economic scale are present in some degree in every sizable plant, and this diversity of the patient group constitutes a distinct and interesting phase of specialized industrial practice. The care rendered by the industrial health service and health education offered by it are required by and will reach more different levels of society than is the case in the average private practice. The industrial physician is stimulated by and must contend with intellectual extremes which range from ignorance, superstition, and folklore through quasi-education and "isms" to true enlightenment or even brilliance, sometimes not too well leavened with common sense.

These opportunities need not be constrained by a responsibility to plant management. Good medical care is dictated by and within the profession itself and can enhance production and morale beyond any question of an investment value. Management concedes control of medical matters to the physician when the value of a within-plant service is demonstrated. In a medically progressive plant it is the physician's immediate economic advantage to keep the employees so well as not to need his services for illness. Freedom from injury and illness on the part of employees is manage-

ment's ultimate criterion for evaluation of the medical service. Operating economy, enhanced by good industrial medicine, makes for managerial approval of higher incomes for industrial physicians.

Improved techniques of preventive medicine and medical education for the lay public are immediately at hand. Medical relations with organized labor can be based on good understanding and co-operation in handling mutual problems. Unions can do much to publicize to workers the individual protection and service rendered by preplacement physical examinations and all other plant medical services. Unions justifiably expect that medical care, including these examinations, shall not operate to the detriment of the worker in securing the job for which he is trained. It is the physician's responsibility in industry to fit the worker in the job for which he is qualified and in which he can utilize his training and experience to the fullest.

The placement of handicapped personnel is a challenge of tremendous sociological importance, and every opportunity exists in industry for making the physically handicapped occupationally solvent.

Close liaison with other plant agencies is important, and close association with the Safety Department will eliminate sources of occupational injury and illness. The industrial physician bears a great responsibility to the family physician, and it is the function of the industrial health service to see that the ill worker seeks the care of his own physician, even in instances wherein the individual might not seek such care if left to his own devices. Through a specialized knowledge of plant activities, the private physician can be assisted in reaching the goal of the health, well-being of the employee who is his patient. The industrial health service can at times facilitate private medical care by conducting laboratory studies or other diagnostic procedures without cost to the patient. The fundamental fact must be stressed that the industrial physician has no financial axe to grind in treating employee patients. The average worker spends one-half his waking hours at work, and responsibility of the health service extends beyond caring for occupational illnesses and injuries.

Every opportunity must be utilized in employing persuasive health education measures. It is becoming increasingly evident that the field of industrial medicine is a specialty in its own right and that optimum industrial medical care can be achieved only by full-time work by capable physicians interested and trained in the field. Recognition by the profession of this newer status will allow the establishment and enforcement of higher standards in this specialty commensurate with the splendid natural resources and heritage of ambition, personal independence, and personal achievement.



## OBSTETRICS

By MILTON SMITH LEWIS, M.D.  
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Anoxia Neonatorum. C. L. Sullivan. New England Journal of Medicine, Vol. 235, pp. 894-896, 1946.

In this paper the author discusses the care of the fetus during labor and evaluates the treatment of anoxia caused by failure of respiration after birth.

In considering the care of the fetus during labor, the length of labor is of the utmost importance; anoxia is most frequent in labors under three or over thirty hours. If a labor lasts longer than thirty hours, it is in the best interest of the fetus that it be terminated spontaneously, without operative interference. During labor the fetal heart should be checked every fifteen minutes during the first stage, and after every other contraction at the end of this stage and during the second stage. Any deviation in rate from the accepted normal range of 116 to 160 should receive immediate treatment by the administration of pure oxygen to the mother. For spontaneous or outlet forceps delivery, especially in the face of previous medication, an absolutely minimal amount of anesthesia should be used. Nitrous oxide and oxygen should be used in concentrations of fifty per cent each, with a few short inhalations of ether if this is not sufficient. As the head crowns, pure oxygen should be given to the mother and continued after birth until the cord ceases to pulsate. In any delivery more serious than outlet forceps, spinal anesthesia is best from the standpoint of anoxia neonatorum.

The greatest single factor contributing to anoxia neonatorum and complicating about half the four to five per cent of neonatal deaths is failure of the onset of respiration after birth. Respirations should be established within thirty seconds after birth. Absence of muscle tone in the newborn indicates a dangerous state of anoxia requiring immediate treatment. The severity of anoxia is best judged by Flagg's classification into three stages—depression, spasticity, and flaccidity occurring in that order of frequency and severity.

In the depression stage the infant does not breathe well and there is a tendency to duskiness and recurring cyanosis. Muscular tone is good and the cord pulsates strongly. The infant should be placed in a slightly inclined position with the head downward and the mouth and pharynx cleared by suction. Body heat should be maintained and pure oxygen should be administered until the skin shows a pink glow. If the baby still does not become vigorous, with deep respirations and a cry, carbon dioxide may be administered by mouth insufflation.

The second degree of anoxia, spasticity, is more serious in nature. Irregular, gasping, or shallow

respirations occur at long intervals. Reflex action is still present; muscle tone is present but diminished; there is marked cyanosis of the mucous membranes; froth or fluid is present in the mouth. Treatment includes those general measures employed in the depression stage. Oxygen should be given, preferably by a positive and negative pressure machine, regulated to thirty or forty discharges a minute. The machine should be used only until the skin becomes pink and respirations regular. If the baby becomes pink but does not increase its respirations or cry, five per cent carbon dioxide should be resorted to. In the absence of a resuscitator, mouth-to-mouth breathing should be initiated at once and maintained until spontaneous respiration is established. For protection against rupturing the alveoli during this procedure, the operator's hand should be placed over the thoracic cage of the infant, and there should be only a minimal excursion of the chest wall with each breath blown.

The third stage of flaccidity indicates a most precarious stage of shock, with circulatory failure. Respirations occur at long intervals or cannot be demonstrated. Pallor or a gray cyanosis is present; there is complete lack of muscle tone; the apex beat may or may not be demonstrable; there is no pulsation of the umbilical cord. Treatment should include the measures outlined above, with the important addition of intubation, at first with suction and then with insufflation of gases. Without intubation, it is impossible to give the infant an adequate supply of oxygen before irreparable damage has occurred to the nervous system.

All infants requiring treatment for anoxia should be given the same meticulous care as premature infants and should be placed in an incubator at a temperature of approximately ninety degrees Fahrenheit with continuous oxygen for six to twelve hours, being under careful observation.

## PROCTOLOGY

A. R. Porter, Jr., M.D., Memphis

Statistics on 198 Cases of Resection. E. Parker Hayden, M.D. New England Journal of Medicine, Vol. 233, pp. 81-84, July 26, 1945.

Carcinoma of the rectum and sigmoid is much more frequent in that segment than in other parts of the colon. In the presence of one or two metastasis in the liver, or when the local growth, although extensive and perhaps abscessed, can still be removed, I complete the operation if possible, being willing to accept a higher mortality rate for the sake of giving relief. The evolution of operative procedure has been based on a sound conception of what constitutes the most thorough removal of the gland-bearing areas and primary le-



sions. No other method permits as thorough a removal of mesentery as does abdominoperineal resection. The safety of a single stage abdominoperineal resection, with adequate preoperative preparation, is that I now rarely resort to a two-stage procedure, other than an occasional cecostomy as a preliminary decompression for marked obstruction.

The two-stage procedures used in twenty-seven cases consisted of three methods: colostomy followed by posterior resection; the Jones operation, in which the colon is not divided at the first stage but is brought out as a loop colostomy after dissection of the pelvis; and the Lahey procedure, in which the sigmoid loop and mesentery are divided and separated at the first operation, both bowel ends being brought out through the abdominal wall.

Anterior resection may be used to avoid a perineal extraction if the tumor is too low for a safe anastomosis or a Mikulicz operation but high enough to permit division of the bowel below it with a fair margin and a satisfactory inversion of the rectal stump above the peritoneal level. End to end sutures can be done when a tumor is a little higher than just mentioned but not high enough for a Mikulicz operation.

Tube resection for a tumor too low for anterior resection and when preservation of an anal outlet seems necessary is an operation rarely indicated.

Abdominoperineal resection in one stage is the ideal procedure for carcinoma of the rectum and sigmoid and offers the highest hope for a cure. A stay of three to five days in the hospital before an operation is usually adequate for rest, preparation of the bowel, completion of laboratory work, etc. Unless contraindicated, I use pontocaine spinal anesthesia. A moderate Trendelenburg position is sufficient, although a high one is better.

I usually place the colostomy in the long left paramedian incision without suture of the left

lateral gutter. If the descending colon is brought out through a lateral rectus stab wound, the smaller lateral aperture should be closed. The perineal part I carry out with the patients in the right Sims position. After removal of the bowel segment the posterior wound is packed with a large gauze handkerchief inside of a rubber drain, and the wound is sutured from its upper end down to the drain, which comes out anteriorly.

The colostomy is opened in twenty-four to forty-eight hours, an enema is given on the fourth or fifth day, and boric irrigations of the posterior wound are begun after removal of the posterior packs at about the same time and continued until the discharge ceases.

The average postoperative hospital stay is three weeks.

In the entire series of 198 cases, there were twenty-six hospital deaths, a mortality of thirteen per cent. The chief causes of death were pneumonia, sepsis, embolus, obstruction, shock, anesthesia, uremia, coronary occlusion, cardiac decompression, suicide. Ages were varied from twenty-seven to seventy-five; however, twenty-two were over fifty-four. Of the 198 patients resected, seventy-five died later, in most cases of recurrent disease; twelve of these died of unrelated causes; and ninety-six are still alive.

Of the ninety-eight patients operated on over five years ago, thirty-two, or thirty-three per cent, have survived without evidence of disease for five to fourteen years. In general the patients who died later of recurrence were the ones whose tumors were classified as Grade 2 or 3 adenocarcinoma, who had metastasis in the lymph nodes at operation or who had a long history of symptoms and a large tumor invading the serosa and extending beyond it.

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## NON-OPERATIVE TREATMENT OF ACUTE HEMATOGENOUS OSTEOMYELITIS: PRELIMINARY REPORT\*

JOHN J. KILLEFFER, M.D., and ROBERT C. ROBERTSON, M.D., Chattanooga

During the past fifteen years therapy of acute hematogenous osteomyelitis has undergone great changes. Treatment as a surgical emergency with immediate drainage of the infected bone was gradually replaced by stabilization of the patient and delayed bone drainage with decreased mortality. With the introduction of the sulfonamides, non-operative methods of treatment further decreased mortality and morbidity. Following the introduction of penicillin, non-operative treatment continues to increase in popularity, and surgery is largely reserved for complications arising during treatment, such as subcutaneous abscess and sequestration. Incision of abscesses is being replaced by aspiration, and sequestrectomy is becoming more and more infrequent. Since our return from military service to private practice, we have had occasion to treat fourteen consecutive, unselected cases of acute hematogenous osteomyelitis by non-operative methods.

All of our cases meet the following criteria:

1. The history, physical examination and laboratory findings permitted a diagnosis of acute hematogenous osteomyelitis. In each instance there was more or less sudden onset of pain localized in a bone followed by pyrexia and the usual evidences of infection.

2. X-ray findings confirmed the diagnosis of osteomyelitis at some time during the

course of the disease. These bone changes in the X-ray picture must not be expected before approximately the tenth day of the disease.

3. The follow-up period has been sufficiently long to permit evaluation of treatment during the acute stage of the disease.

In our series the bones involved were: femur, 6; humerus, 2; radius, 2; ilium, 1; tibia, 1; fibula, 1, and ulna, 1. The duration of symptoms at the time of initial examination varied from one to thirty-five days, the average duration being 7.9 days. Penicillin was administered intramuscularly in all cases, the amount varying from 10,000 to 25,000 units every three hours. The total number of units given a single patient varied from 960,000 to 6,040,000 units. Penicillin was used alone in eight cases, while in six cases sulfadiazine was additionally given for periods of two to six days. No increased benefit was observed in cases in which sulfonamide drugs were combined with penicillin. Medication was continued for periods varying from two weeks to two months after return of normal temperature, depending upon the local and systemic findings. Temperature returned to normal in from two to eleven days following the initial administration of penicillin, the average being 4.1 days. In only one case was surgery of any type employed. In this case an abscess which had formed prior to admission was incised and a moderate amount of pus was found. In no other case did abscess form and in no

\*Read before the Tennessee State Medical Association, Memphis, April 8, 9, 10, 1947.

case did secondary areas of bone infection develop. In three cases pathologic fracture occurred at the site of involvement as the result of inadequate fixation. In three cases radiographic evidence of sequestration developed, but under continued observation and conservative treatment these sequestra appeared to be revascularized. No sequestra were extruded. There were no deaths in this series.

*Case 1.* A. C., colored male, age 11. First seen on December 29, 1945. The history was that the right wrist became painful without known cause about November 24. Within a few days local swelling developed which shortly involved the entire forearm and elbow. He was treated for rheumatic fever by his family physician. About December 22 an abscess on the dorsum of the forearm ruptured spontaneously.

*Examination:* Temperature 103.4 (rectal). There was a draining sinus on the dorsal surface of the distal one-fourth of the forearm. The proximal half of the

forearm and the elbow were markedly swollen, non-fluctuant, tender, warm to touch and hyperemic. The right axillary glands were moderately enlarged and tender. A blowing murmur was heard overlying the apex of the heart which, no doubt, explains the initial diagnosis of rheumatic fever. No recent local or systemic infection was found. Red blood count, 3,640,000; hemoglobin, 62%; white blood cells, 17,550, of which 86% were polymorphonuclears. Kahn negative.

*Treatment:* December 30, 1945—15,000 units of penicillin every three hours began. Hot boric acid fomentations and splint were applied to the extremity.

January 4, 1946—Temperature was normal and remained so.

January 10—Swelling markedly diminished.

January 16—Penicillin was discontinued and cast was applied from axilla to palmar crease. Slight swelling of the forearm and slight drainage from the sinus continued.

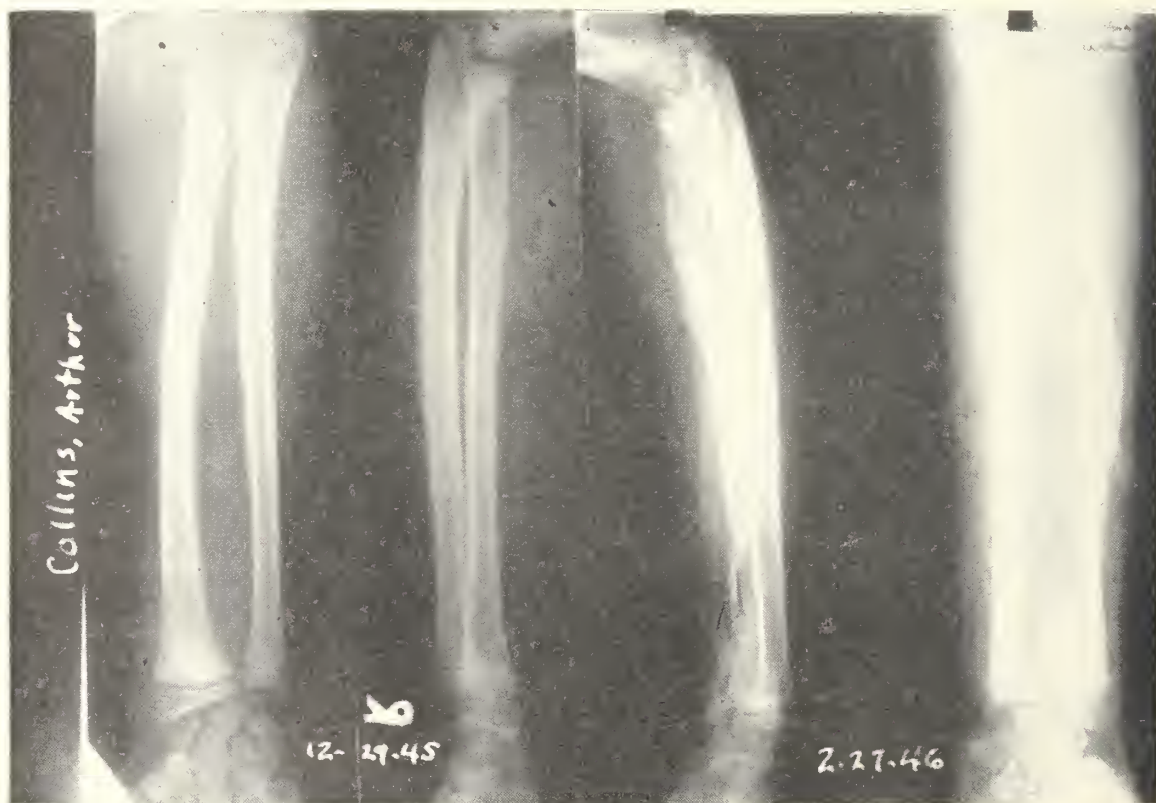


Figure 1, Case 1. Roentgenograms, December 29, 1945, and February 27, 1946. Non-operative treatment of acute hematogenous osteomyelitis: Preliminary report. John J. Killefer, M.D., and Robert C. Robertson, M.D.

February 6—Penicillin, 15,000 units every three hours, was resumed and continued until February 20. Total amount of penicillin administered was 3,960,000 units.

July 17—Cast removed, sinus was healed. The following day a pathologic fracture of the distal third of the right radius was found and cast was reapplied.

February 26, 1947—Stated that the cast "had been taken off last fall." There was moderate volar bowing in the distal half of the radius. Forearm rotation was mildly restricted. Solid union of the fracture and good function of the extremity were present.

*X-rays:* December 29, 1945. There are numerous areas of diminished density in the proximal and distal thirds of the radius. A small amount of sub-periosteal new bone formation is to be seen in the middle third of the shaft.

February 27, 1946—There is extensive destruction and new bone formation involving the entire shaft of the radius with ap-

parent sequestration of the major portion of the shaft of the bone.

July 17, 1946—There is a complete pathological fracture in the distal third of the shaft of the radius. The remainder of the shaft shows well formed involucrum and two small areas suggestive of sequestration.

February 26, 1947—The radial shaft fracture is united with moderate volar bowing. The medullary canal is reforming. No evidence of sequestration is seen.

*Case 2.* J. M., white female, age 5. First seen on July 20, 1946, with the following history: Fell, striking on left knee July 13. The following day the knee was quite painful, and on July 15 fever was noticed. On July 17 temperature was 103 by mouth. 300,000 units of penicillin in oil and wax and an unknown quantity of sulfadiazine were given by the family physician.

*Examination:* Temperature 104 (rectal). There was diffuse swelling, hyperemia and increased local heat in the distal, two-thirds of the left thigh with sharply localized

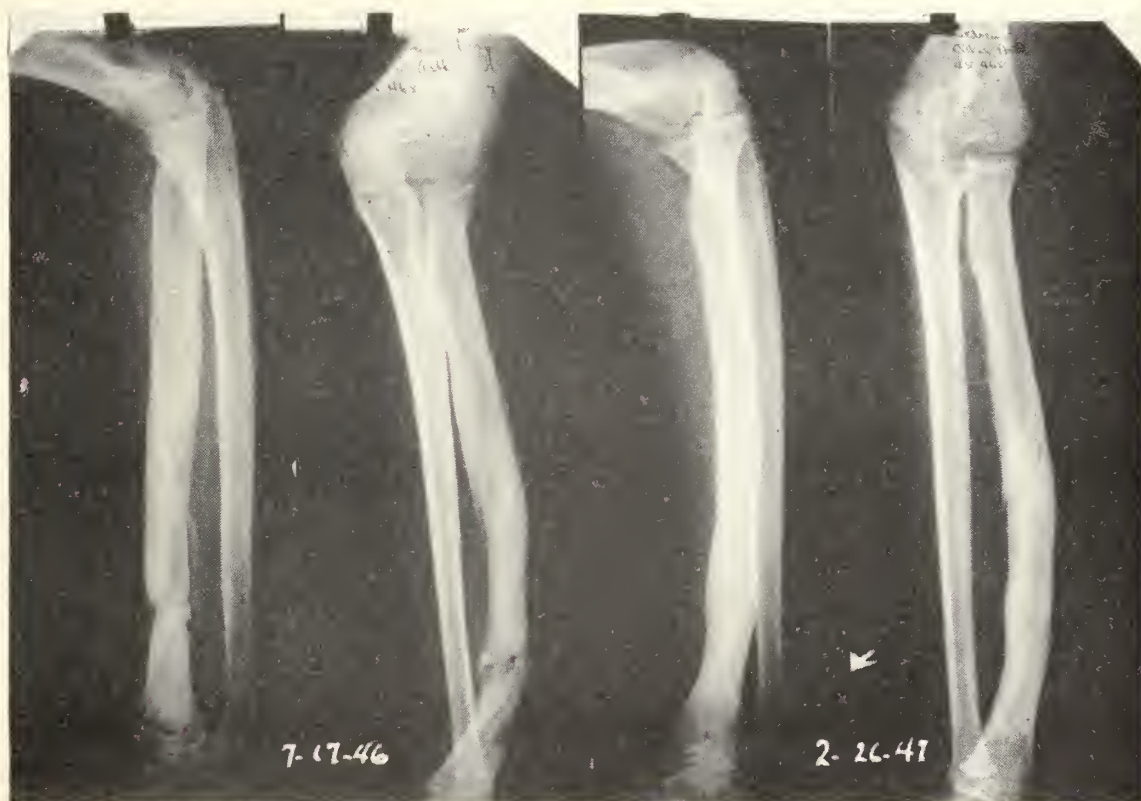


Figure 2, Case 1. Roentgenograms, July 17, 1946, and February 26, 1947. Non-operative treatment of acute hematogenous osteomyelitis: Preliminary report. John J. Killefer, M.D., and Robert C. Robertson, M.D.



pain on pressure over the distal femoral metaphysis. No local or systemic infection was found. Red blood cells, 3,680,000, white blood cells, 13,600, of which 87% were polymorphonuclears. Kahn negative. Urinalysis negative.

*Treatment:* July 20—Long leg splint applied. Penicillin 20,000 units every three hours began.

July 26—Temperature normal and remained so.

August 1—Penicillin stopped. Total amount given, 1,900,000 units.

September 10—Splint removed. Crutch walking without weight bearing on left lower extremity began.

October 1—Weight bearing without crutches.

November 8—Slight thickening of the distal portion of the femur was palpable. There was no restriction of motion in the hip or knee; no tenderness on pressure or on weight bearing.

March 4, 1947—Bone thickening is no longer palpable. Length of the lower ex-

trimities equal. Joint motion normal. Free of all complaints.

*X-rays:* July 29, 1946—There is moderately decreased density of the distal femoral metaphysis.

September 10—There is definite destruction in the central portion of the distal femoral metaphysis with new bone formation involving the distal half of the femur.

March 4, 1947—New bone formation is far advanced and the contour of the femur is well restored. There are several areas of increased density throughout the distal femoral metaphysis at the site of initial infection.

*Case 3.* C. M., colored female, age 13. First seen September 4, 1946, with the following history: Fell striking "the leg" on a doorstep August 29, 1946. Since that time has had severe pain in the left thigh.

*Examination:* Walked with marked left sided limp. Temperature 101 by mouth. There was slight local heat, tenderness over the middle half of the left femur. Red blood cells, 3,610,000; white blood cells,

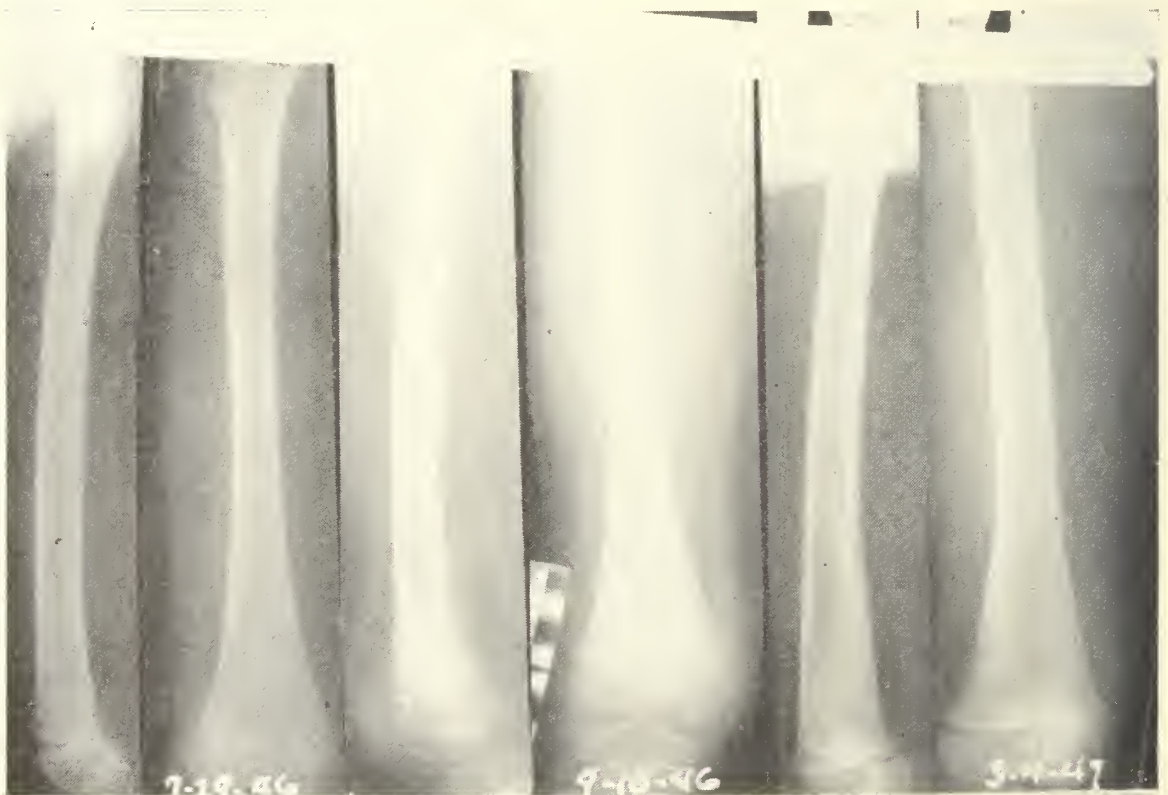


Figure 3, Case 2. Roentgenograms, July 29, 1946, September 10, 1946, and March 4, 1947. Nonoperative treatment of acute hematogenous osteomyelitis: Preliminary report. John J. Killefer, M.D., and Robert C. Robertson, M.D.

5,500, of which 49% were polymorphonuclears. Kahn and urinalysis were negative.

*Treatment:* September 4, 1946—The extremity was elevated and 20,000 units of penicillin every three hours began.

September 10-12, inclusive—Sulfadiazine grams, 1 was given every six hours in addition to the penicillin.

September 15—Temperature normal. No further rise occurred.

September 17—Penicillin stopped. Total amount given 1,110,000 units.

October 10-16, inclusive—Sulfathiazole grams, 1 every six hours was given.

October 16—Hip spica cast applied.

January 9, 1947—No complaint, and no restriction of motion in hip or knee. Moderate palpable thickening of the femoral shaft was present.

*X-rays:* September 4, 1946—There is subperiosteal new bone formation in the middle half of the shaft of the femur. (This picture was made on the sixth day follow-

ing the alleged onset of the disease and indicates inaccuracy in the history given by the patient).

October 8, 1946—There is extensive new bone formation and cortical destruction in the middle half of the left femur. These changes are suggestive of sequestrum formation.

February 14, 1947—The middle half of the femur is definitely increased in diameter and in density. The cortex is thickened. The medullary canal is fairly well reformed.

The results obtained in our series of fourteen cases have been so uniformly striking that it is our impression that acute hematogenous osteomyelitis is best treated with penicillin and that surgical intervention is rarely indicated. We realize that the end result has not been seen in any of our cases and that observation over a period of years is necessary before final conclusions are warranted.

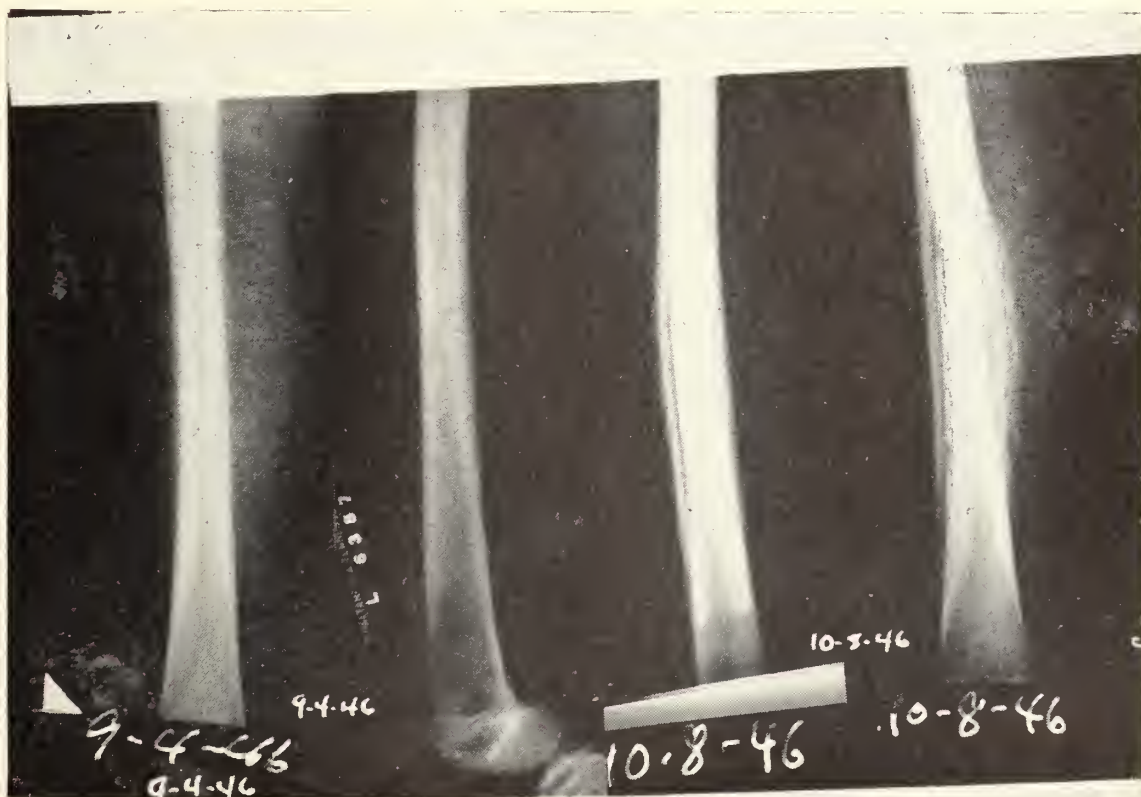


Figure 4, Case 3. Roentgenograms, September 4, 1946, and October 8, 1946. Nonoperative treatment of acute hematogenous osteomyelitis: Preliminary report. John J. Killefer, M.D., and Robert C. Robertson, M.D.

## CONCLUSIONS

1. Acute hematogenous osteomyelitis must be considered the probable diagnosis in any child who gives a history of pain in or near a joint, with findings of pyrexia and local tenderness on bone pressure adjacent to an epiphysis.

2. The treatment of acute hematogenous osteomyelitis with penicillin has given spectacular results in our series of fourteen consecutive unselected cases.

3. Adequate splinting is necessary in the treatment of acute hematogenous osteomyelitis if pathologic fracture is to be prevented.

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## DISCUSSION

DR. J. F. HAMILTON (Memphis): Mr. Chairman, Members of the Association and Guests: I re-

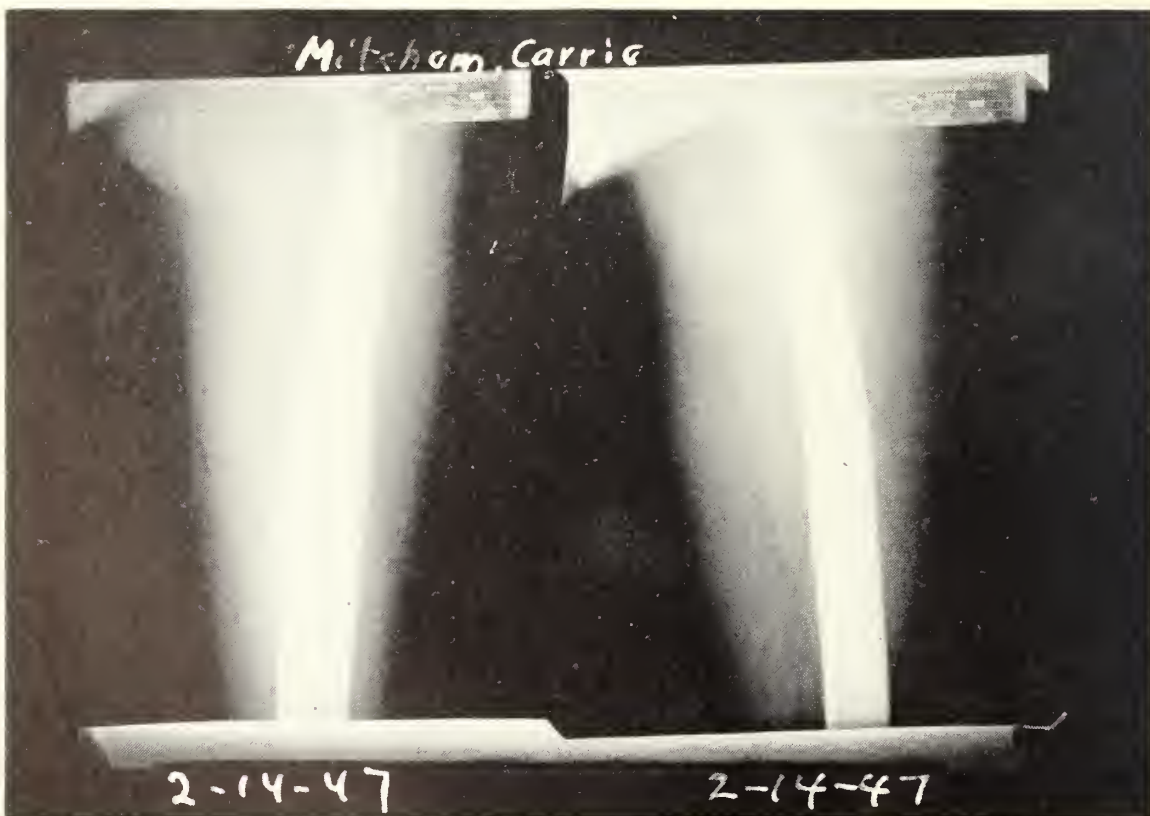


Figure 5, Case 3. Roentgenograms, February 14, 1947. Nonoperative treatment of acute hematogenous osteomyelitis: Preliminary report. John J. Killefer, M.D., and Robert C. Robertson, M.D.



gret that all the members of our Association are not here to hear this important paper. The matter of the early use of an antibiotic such as penicillin in the treatment of acute hematogenous osteomyelitis is of paramount importance. The low cell toxicity and high antibiotic qualities of penicillin make it an ideal therapeutic agent. Its value is firmly established beyond any peradventure of a doubt.

The author has presented evidence to show that through the use of penicillin acute hematogenous osteomyelitis has been converted from a surgical to a non-surgical disease; from a disease with a protracted morbidity to one of short duration and from a disease with a considerable mortality rate to one of practically zero mortality.

One must be on constant guard against the rare penicillin resistant infection, in which case one of the sulfonamides should be given in potent dosage.

We have previously reported similar results to those of the author from penicillin therapy in the face of sequestra.

We believe penicillin should be instituted on the basis of the most meager evidence or suspicions of the presence of acute osteomyelitis. However, one should bend every effort to find the portal of entry for the infection such as the presence of a common boil, mouth or throat infection.

Drs. Killefer and Robertson are to be duly congratulated on presenting this important matter to this Association.

DR. KILLEFFER (concluding): Since the preparation of this paper, we have had one patient who did develop a rather sizeable subcutaneous abscess in the course of acute hematogenous osteomyelitis, and without aspiration or incision the abscess was absorbed. (Applause.)

## ACUTE PULMONARY EDEMA RESULTING FROM INTRAVENOUS SALINE\*

JOHN E. WHITELEATHER, M.D., and J. E. GARDNER, M.D., Memphis

Attention has frequently been directed to the beneficial results of the administration of intravenous fluids, but little has been written of the harmful effects. Overadministration of physiological saline frequently results in edema of various degrees. When slight, it often escapes clinical notice; but if severe enough to attract attention, the cause may be misinterpreted. The blame may erroneously be placed upon the cardiovascular or renal system, if the edema is peripheral, or upon an inflammatory process, if pulmonary. In some instances, pulmonary edema may be the first manifestation of saline retention and can be demonstrated radiographically.

The average salt requirement of the normal individual is approximately 6-9 grams daily. Haldane and associates have shown that the administration of 36 grams of sodium chloride, with adequate fluid intake, will result in edema in the normal healthy subject. This has been interpreted as being due to a migration of fluid from the tissue to the circulating blood in an effort to maintain an isotonic solution. There may then be an initial diuresis, but after additional fluid intake urinary output diminishes and tissue edema occurs. This results from the migration of fluid to the tissue spaces as isotonic saline and the blood volume returns to normal. Thus salt is stored in the tissue spaces and leaves in such small quantities as to not elevate the blood chloride level. Hence there is a lag in excretion of abnormal amounts of salt. Since physiological saline contains 9 grams per liter, the administration of 3,000 c.c. per day puts 27 gms. of sodium chloride into the body. It is doubtful that this amount can be handled for any great length of time by a normal individual. Actually, the quantity adequately handled by individuals may vary considerably. Large amounts are required by patients with continuous enteric suction, protracted vomiting or diarrhoea, hyperhydrosis or adrenal failure.

On the other hand, small amounts may be excessive in cardiac or renal disease.

Collier, Dick and Maddock have demonstrated that patients who have had relatively minor surgical procedures can usually handle 3,000 c.c. of normal saline daily without noticeable gain in weight. However, patients who have had a major surgical procedure, accompanied by various degrees of shock, consistently showed a weight gain on 3,000 c.c. of saline daily. This gain in weight was lost if the same amount of fluid was given as glucose in distilled water. In a control series of similar patients, given glucose in distilled water, there was no water retention or gain in weight. Lambert and co-workers, carefully calculating the sodium input and output of post-operative patients, found marked sodium retention in five of six patients who were given 3,000 c.c. of normal saline daily.

Salt retention edema is usually recognized by the appearance of puffiness around the eyes, or sacrum, or swelling of the legs and feet. However, shortness of breath and shallow rapid respiration may precede these changes and herald the onset of pulmonary edema. Physical examination may reveal wet rales at the bases and a slight flattening of percussion. Chest radiograms may then reveal the expected changes of pulmonary edema. Recognition of pulmonary edema on the radiograph is not too difficult but may be confused with pneumonia, vascular congestion, atelectasis and rarely effusion. There is usually a bilateral, soft, hazy density which seems to radiate out of the hila along the trunks toward the periphery of the lungs. The density is greatest near the hila and fades distally. Usually the extreme bases and apices remain clear, as well as a narrow zone around the edges of the lung. Contrary to expectation, the posterior lung margin is also clear, demonstrating that the edema is not due to hypostasis or dependency. On rare occasions, the edema may be patchy and mottled. It usually begins to clear about two days after cessa-

\*Read before the Tennessee State Medical Association, Memphis, April 8, 9, 10, 1947.

tion of the parenteral fluids and clears first peripherally.

This condition is not usually of too serious consequences but may be a deciding factor in the length and course of convalescence. We have selected four cases, representative of different clinical conditions, in which pulmonary edema from saline retention has been a complication.

Case report No. 1. Mrs. R. L. P., a 32-year-old white female, entered the hospital complaining of severe generalized abdominal pain. A physical examination revealed no abnormalities of the lungs or cardiovascular system. A laparotomy was performed under cyclopropane and ether and an acute appendix and ovarian cyst removed.

On the fifth post-operative day, the patient developed mild intestinal colic with nausea but no vomiting and was given 1,000 c.c. of 5 per cent glucose in normal saline. On the sixth post-operative day the abdomen was again opened because of suspected early intestinal obstruction. On this and the following seven days she received 18,000 c.c. of glucose in saline or 171 grams of sodium chloride.

A chest film, made on the eighth day after the second operation, showed bilateral pulmonary edema (slide No. 1). The blood serum chloride was 606 mgm. % and the serum protein was 6.38 grams %, both within normal limits. There was no evidence of cardiac or renal failure. The administration of intravenous fluid was stopped and a recheck of the chest five days later showed complete clearings of the lungs (slide No. 2).

Case report No. 2. Mrs. P. C., a 40-year-old white female, entered the hospital for removal of bilateral ovarian cysts. Other than the abdominal masses, there was nothing noteworthy in her physical condition. A pre-operative urinalysis was essentially negative and the red cell count and hemoglobin level was approximately normal.

An operation was performed on the second hospital day at which hemorrhagic, epithelial, corpus luteum and follicular cysts were removed from both ovaries. Near the end of the operation the patient went

into moderate shock and 1,000 c.c. of 5% glucose in saline were given on the table.

Two days after operation the patient began to take liquid foods and fluids by mouth. The blood pressure at this time was 118/78. However, she became slightly nauseated and did not wish to eat, so 5% glucose in saline, 1,000 c.c. twice daily, was instituted on the third post-operative day. She received a total of 6,000 c.c. in the next three days when a puffiness appeared around the eyes and the patient complained of shallow, rapid respiration.

A portable X-ray of the chest showed bilateral basal pulmonary edema (Slide No. 3). The parenteral fluids were stopped, the patient improved and made an uneventful recovery, being discharged on the 15th post-operative day. No additional X-rays of the chest were made.

Case report No. 3. Mrs. M. L. K., a 41-year-old white female entered the hospital with right lower pneumonia of two days duration. The admission temperature was 103, pulse 115 and respiration 22. A chest X-ray, on admission, showed a right lower lobe pneumonic infiltration associated with segmental atelectasis, resembling a virus pneumonitis. There was no enlargement of the heart (slide No. 4). Penicillin and extra fluids by mouth were ordered. The next day the patient was placed in an oxygen tent and intravenous glucose in normal saline was ordered given at eight-hour intervals. A total of 5,000 c.c. had been administered when the patient became slightly cyanotic with physical signs of a spread of the disease to the right middle and left lower lobes. A clinical diagnosis of pulmonary edema of cardiac origin was made and rapid digitalization instituted. Streptomycin was also started. On the following day, though the patient was considered fully digitalized, a bedside X-ray showed bilateral pulmonary edema (slide No. 5). The temperature began to descend almost immediately after streptomycin was started and at this time was normal. The intravenous fluids were discontinued and a chest radiograph, one day later, demonstrated beginning clearing, though the original pneumonic infiltration was still visible



(slide No. 6). Two days later the lungs were almost completely clear, though a slight residual of the pneumonic infection still remained at the right base (slide No. 7). One week later even that had disappeared (slide No. 8).

Case report No. 4. Mr. R. B., a 53-year-old, debilitated white male entered the hospital complaining of chills, fever, weakness and loss of weight. Six months previously he had had an operation elsewhere for recession of the colon for carcinoma, during which the right ureter had been severed.

His temperature was 101, pulse 110 and respiration 20. Blood pressure was 85/60. The physical examination was negative in regards to the heart and lungs, but there was a hard mass in the right lower quadrant which was quite tender. He was dehydrated and emaciated. The red blood count was 3,400,000 on admission, and it gradually diminished to around 2,000,000 in spite of transfusions. There was also a slight leukocytosis. An X-ray of the chest was negative (slide No. 9). Urinalyses showed a few red cells, white cells and 3 plus albumin. The NPN ran around 75 mgm. %, the serum albumin was normal. Cystoscopy and urography demonstrated a complete block of the right ureter with a normal left kidney and ureter.

Nine days after admission, a paranephric abscess was drained and a right nephrostomy done. Penicillin was administered through the hospital stay. Glucose in normal saline was begun on the 5th hospital day, 3,000 c.c. per day were given for 10 days; thereafter for 4 more days 1,000 c.c. of glucose and 1,000 c.c. of saline were given.

A portable chest film made at the time showed bilateral hazy infiltration of the lungs, typical of edema (slide No. 10). The fluids were discontinued but the patient continued to fail and died on the 27th hospital day. Subsequent films were not made, but at autopsy the lungs were not heavy, wet or congested. There was no bronchial obstruction or evidence of pneumonia. There were numerous small miliary abscesses scattered throughout both lungs. The heart was not enlarged but did show some fibrous thickening of the valves with

advanced sclerosis of the aorta and other arteries.

The patient's death was due to abdominal metastases.

### SUMMARY

It has been shown that acute pulmonary edema may result from over administration of normal saline intravenously. The pulmonary edema may precede the appearance of peripheral edema.

The amount of saline, which can be given the individual patient before edema is evident varies apparently with the disease and the clinical condition of the patient.

A description of the radiographic appearance of acute pulmonary edema has been given.

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### DISCUSSION

DR. HIRAM LAWS (Chattanooga): This has been quite a very interesting paper, and the reports are most interesting.

There has been very little written on this matter. It is kind of in the research stage now. I, being from the old school, was taught to give fluids externally, internally and eternally. We would drown them, and then they would say we killed them with ether.

As Dr. Whiteleather has said, give the fluids intravenously, normal saline, and then the kidneys have work to do. If you have a large, flabby man and you put in a Wangensteen and suck the fluids out of him, and if he has no way of eliminating he will develop trouble not only in his kidneys but he will have edema in the lungs. You listen to his lungs and say, "Well, we're getting a pneumonia." He is simply waterlogged, that's all.

More patients are killed by being waterlogged, and more patients are killed by being given overdoses of fluids than anything I know of. Some men routinely start fluids while they are operating or as soon after operation as they can get it started. Nature is a wonderful thing if you let it alone and do not tamper with it too much.

You will find indications for fluids. When you do, they are necessary; but giving fluids as a routine thing, I think, is a bad thing. It is just like

a liquor stimulant. Some men take a little liquor for a stimulant, and it is all right, but too much makes them waterlogged. The same applies to this. (Applause.)

DR. R. R. OVERMAN (Memphis): I should like to compliment Dr. Whiteleather and Dr. Gardner on a paper which, although reporting only a few cases in detail, is nevertheless of high importance with regard to the care of the post-operative patient. The evidence presented, showing radiographically the development of acute pulmonary edema as the result of massive venous infusions of non-colloid fluids and the disappearance of the edema following cessation of infusions, is striking.

We are prone, I believe, to consider water and sodium chloride as harmless agents, and yet we are amply afforded with evidence that alterations in the amount or distribution of these substances can be accomplished by disastrous results as in Addison's Disease, in pernicious vomiting or diarrhea, in dehydrational or superhydrational state.

It seems highly possible that the acute pulmonary edema, described by Dr. Whiteleather, basically results from lowering of the colloid osmotic pressure with a simultaneous rise in pulmonary venous and capillary pressures. The patient lying flat in bed has already some increase in pulmonary venous pressures since gravity is no longer an important factor in venous return. A large venous infusion, although reducing the colloid osmotic pressure only temporarily, may in this case be accompanied by fluid loss into the alveoli as the hydrostatic pressure suddenly exceeds the colloid osmotic pressure. Such fluid cannot readily be removed. Since the alveoli are not supplied with

lymphatic drainage, "retrograde" removal is not possible. And since the alveolar air is already saturated with water vapor, such fluid cannot be readily vaporized and removed. Therefore, the accumulated fluid tends to remain and repeated infusions produce a cumulative effect. The resulting local anoxemia may well result in further capillary leakage and a vicious circle is established.

On the basis of Dr. Whiteleather's evidence it would seem that the hydrational care of the post-operative patient might be best implemented keeping in mind the following:

1. The patient with a plasma protein level in the lower range of normal is, in general, a poor risk for large, repeated venous infusions of non-colloid material.
2. If the patient has suffered incipient shock as the result of hemorrhage or surgical trauma, it may be more rational to treat his condition with plasma or blood rather than with non-colloid solutions—and this is particularly true in the patient with a low initial plasma protein concentration.
3. The indiscriminate use of large venous infusions is as dangerous as no infusions at all.

It is quite possible that the problem of water balance in the post-operative patient has been over-emphasized and finds itself in the category of vitamin therapy in this regard.

Finally, Dr. Whiteleather's work, in pointing out that acute pulmonary edema can be recognized and followed radiographically, removes the insidious character from the development of this dangerous pathological physiological state.

## RINGLIKE SKIN LESIONS\*

CLARENCE SHAW, M.D., Chattanooga

There is only one point to be made in this presentation, and that is the demonstration by means of lantern slides that all is not ringworm which is ringlike in character. You will be shown pictures of about 26 different skin diseases, all of which have an annular appearance, yet very few of which are due to the ordinary fungi. If it had been possible to secure additional photographs, I might have been able to show you almost that many more different ring-like skin eruptions. But these few will suffice to convince you that everything that is round is not necessarily ringworm. This paper is not given in order to confuse you, but rather to avoid confusion. I shall not attempt exhaustive differential diagnostic features of all the different diseases, pictures of which you will see, because that would take a great deal of time and is something of interest only to the specialist. Nor will treatment of the various diseases shown be discussed today. In evaluating the characteristics of a skin eruption, in order to make a diagnosis, the physician must look for various distinguishing differential points, among which are the location of the eruption, its duration and spread, subjective symptoms, especially itching, the distribution in regard to symmetry and the appearance of the primary elements which make up the eruption.

Ringworm of the body always has certain definite characteristics. It is a ringlike or annular or circinate patch with a clearing, scaling center and a vesicular border; that is, the edge of the patch is made up of tiny water blisters. It is usually intensely itching, tends to get worse in the hot weather and better in the winter, usually flourishes best in warm, moist areas such as the groin, axillae and skin folds, and tends to recurrence if not thoroughly treated. There is most commonly an associated ringworm of the feet with which we are not going to concern ourselves today.

It is always due to a fungus or mould which can be easily demonstrated under the microscope or grown on proper culture media. If it doesn't have these qualities, it is not ringworm. There is one other very important point to remember: Ringworm of the body, with the exception of *tinea cruris*, is a very rare disease.

Bearing these few remarks in mind, I would like to show you now some pictures of what I'm talking about.

(Slides were shown of the following conditions:)

- 1a. *Tinea cruris*
- b. *Tinea face*
- c. *Tinea elbow*
- d. *Tinea wrist*
- e. *Tinea shoulder*
- f. *Tinea capitis*
2. *Tinea versicolor*
3. *Actinomyces*
4. *Psoriasis*
5. *Pityriasis rosea*
6. *Seborrhoeic dermatitis*—chest



\*Read before the Tennessee State Medical Association, Memphis, April 8, 9, 10, 1947.





Pityriasis rosea showing herald patch



Dermatophytosis, tinea cruris

## DISCUSSION

DR. E. R. Hall (Memphis): Mr. Chairman and Gentlemen: Dermatology lends itself very well to photographic study, and Dr. Shaw has presented some very beautiful and interesting slides of very cutaneous conditions. As long as he did not enter into differential diagnosis or treatment, I find it almost impossible to discuss this paper.

I enjoyed the exhibit and I am sure you did. I think, if I had been presenting the paper, I would have given it the title of "Interesting Dermatological Conditions." I am sure you learned more from viewing the exhibit on the screen than you would have from a long paper on the subject.



Lupus erythematosus, chronic discoid

7. Neurodermatitis
8. Nummular eczema
- 9a. Lupus erythematosus
- b. Lupus erythematosus
10. Granuloma annulare
- 11a. Lichen planus
- b. Lichen planus—pigmentation
12. Pityriasis rubra pilaris
13. Epidermolysis bullosa
14. Dermatitis factitia
- 15a. Mycosis fungoides
- b. Mycosis fungoides
- 16a. Urticaria
- b. Urticaria
17. Urticaria pigmentosa
- 18a. Carcinoma, basal cell
- b. Carcinoma, basal cell
19. Dermatitis medicamentosa—bromides
- 20a. Erythema multiforme
- b. Erythema multiforme
- c. Erythema multiforme
- d. Erythema multiforme
21. Creeping eruption
22. Impetigo
- 23a. Syphilis, secondary—palms
- b. Syphilis, secondary—face
- c. Syphilis, secondary—face
- d. Syphilis, secondary—penis
- e. Syphilis, tertiary—hand
- f. Syphilis, tertiary—foot
- g. Syphilis, tertiary—foot
24. Pinta
25. Sarcoid
- 26a. Leprosy, tuberculoid
- b. Leprosy, tuberculoid
- c. Leprosy, tuberculoid

# AN ANALYSIS OF THE CAUSES OF GLOBUS HYSTERICUS\*

WILLIAM D. STINSON, M.D., Memphis

## OPENING REMARKS

WILLIAM D. STINSON, M.D. (Memphis): Mr. President and Gentlemen: I have neither the voice nor the oratory of the preceding speaker, so I will have to depend upon the contents of this paper to hold your attention rather than delivery.

This paper was inspired by the realization a year or so ago that due to the press of affairs and the burden we have all carried for the last several years trying to care for the most people in the shortest period of time, the emphasis was being put on psychoneurosis by our publicity, also our war experience, and that there has been a growing tendency on my part, as well as cases referred to me, that to classify them rather hurriedly, classifying people according to their impression made upon us, and if a patient was very nervous he gave some bizarre symptoms. They might be classified as psychoneurotics, and consequently sufficient attention was not paid to a thorough examination.

Of course globus hystericus, or the sensation of a lump in the throat, is a very common symptom. There are all sorts of causes for it, but the purpose of this paper is to try to show that in every case a man is entitled to a very thorough screening regardless of the original impression he makes.

Dorland's medical dictionary defines globus hystericus as: "The subjective sensation of choking; a lump in the throat; a condition frequently seen in hysteria."

Unfortunately there has developed a tendency to consider all patients with a lump in the throat as hysterical, especially if they are nervous, apparently unduly concerned about their condition, or if by the history the onset of the symptoms can be linked with some emotional stress or upset.

The purpose of this paper is to divide globus hystericus into three categories:

1. Sensations occurring as sequelae of organic conditions, usually inflammatory, such as tonsillitis, acute pharyngitis, etc.

2. Proliferative lesions such as polyps, cysts, tumors, calculi or diverticulae, which though the sensation is localized in the throat by the patient, may themselves be located in the posterior nares, nasopharynx, pharynx, tonsils, salivary glands, hypo-

pharynx, larynx, or esophagus, even as low as the cardiac end.

3. Neuroses, usually initiated by some slight pathology, leading to cancerophobia, syphilophobia, or consequences of normal physiologic actions in the pharynx or hypopharynx. In this category it must be borne in mind that some emotional stress may make the patient conscious of a sensation in the throat caused by organic changes, which had not heretofore attracted his attention.

*Category 1.* Sensations occurring as sequelae of mild organic conditions, usually inflammatory. Neuritis is characterized by hyperaesthesia, frequently followed by anaesthesia. If one touches a spot in the normal pharynx with cocaine, the patient will develop a lump in the throat. I am convinced this frequently happens following acute tonsillitis or pharyngitis and can be diagnosed by palpation. If an area of anaesthesia is found, the patient is usually satisfied with this logical explanation.

Hyperplasia of lymphoid tissue frequently persists following an acute inflammation and is noticeable to the patient, particularly if it lies over a protruding cervical vertebrae.

*Category 2.* Definite organic lesions. Into this classification fall the vast majority of patients who consult a physician for a lump in the throat, and for this reason a thorough search of the entire respiratory and upper alimentary tract is indicated, regardless of history, temperament, or the presence of an apparently obvious deductive explanation for the symptoms.

For example, following the development of cancer of the larynx in one of four old cronies, the other three all presented themselves for a "check-up." Two give a negative history and examination revealed nothing. The third, and the "fuzzy" member of the trio, said he had occasionally had a peculiar feeling in his throat. My examination revealed nothing, but a careful X-ray showed a small diverticulum of the esophagus. Diverticulae of the esophagus

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\*Read before the Tennessee State Medical Association, Memphis, April 8, 9, 10, 1947.

frequently produce sensations in the tonsil fossa of the same side, probably from the pull of the sac.

Success in locating the lesion of this class of cases is achieved only by the most diligent search. One begins with the nose, looking especially for postnasal polyps or fibroma. In the nasopharynx early lesions in the fossa of Rosenmüller must be ruled out. An occasional branchiogenic cyst will be found with the opening in the nasopharynx.

In the tonsil fossa, scar tissue and cysts are not infrequent, while if the tonsils are present they must be probed for calculi or intracapsular abscesses. Palpation in this region is particularly helpful in at least localizing the sensation; remembering always that lesions in the hypopharynx and upper esophagus frequently produce a sensation referred to the tonsillar fossa.

Laryngeal lesions, with or without hoarseness, produce a "lump in the throat." The patient will be acutely aware of a small mucous cyst of the vocal cord, even though it is not large enough to produce hoarseness. Intratracheal lesions must always be borne in mind.

In the hypopharynx and upper esophagus, lesions are revealed only by esophagoscopy and thorough roentgenoscopy. Closest cooperation between the roentgenologist and the physician is absolutely necessary. It is not sufficient to send the patient to the X-ray department with the simple request for an X-ray of the esophagus. Many of these lesions are missed in a routine fluoroscopy. The roentgenologist should be given a detailed statement of what is expected and the physician should review the films personally. To demonstrate many of these lesions, fluoroscopy in several different positions combining different maneuvers such as the Trendelenburg position, the Valsalva expansion of the hypopharynx, etc., are necessary. Results of this intimate cooperation will be shown in lantern slides later.

*Category 3. Neurosis.* Unquestionably some people develop a neurosis characterized by "a lump in the throat that will not go up or down." However, I doubt that

these ever arise from a purely functional upset. They usually have some organic bases. At the junction of the hypopharynx and oesophagus lies the cricopharyngeal band, which is capable of strong contraction, to the point that the patient is actually conscious of the sensation. Repeated swallowing increases the sensation at this point, so that there is set up a vicious cycle. On swallowing, the patient feels the cricopharyngeus contract ascend into the throat, and then drop back to its normal position. This complex frequently arises following the ingestion of a small bone, such as a chicken bone or fish bone. It persists as long as the patient continues to swallow to see if the bone is still present. It can best be dissolved by instructing the patient in the mechanics of swallowing, then have him keep a glass of water at hand at all times and never swallow without taking a sip of water first. Usually within twenty-four hours the lump has disappeared.

In conclusion, I wish to point out that every case of globus hystericus must be considered of organic origin until proven otherwise by a careful exhaustive study by all the known means of the entire region involved.

I have some slides that I think will demonstrate my points. Some of them are good; others are not so good.

(Slide.) This is a man I have known for years. It is an obvious case of a diverticulum of the esophagus or hypopharynx. This man was not a nervous type. I have seen him for years with a pharyngitis, acute rhinitis or something like that. He never complained of any sensation in his throat until he came in with a history that his wife had sent him up because they slept in a double bed and every time he rolled over at night he gurgled so that he woke her up.

He said that occasionally in the morning he would find a little particle of food that he had eaten the night before. He had no difficulty in swallowing. That was a very characteristic history of a diverticulum, and the diagnosis was simple. The X-ray was very exact, a large diverticulum of the esophagus. The case presented no difficulty. This is a lateral of the same thing.

(Slide.) This is not a very clear slide, but here is a small diverticulum of the esophagus with a large neck. This is the fussy member of that trio, one of whom died of cancer of the larynx. This man I have known for a long time. He never had any symptoms until after that incident which



upset him. His symptoms were that he had a little peculiar feeling in his throat. He had no difficulty in swallowing, no regurgitation of food, no symptoms except that he was worried about his throat because it didn't feel right.

I was a little tempted to pass this man up. I had known him a long time. He had had certain characteristics like this before that had always passed off with a simple explanation.

Following the routine of a thorough examination, an X-ray was taken and showed this small lateral diverticulum which is producing no symptoms whatever, and he is leaving it alone temporarily. The man is 74 years old and is having no difficulty.

(Slide.) This is a traction diverticulum. This is the aorta; this the traction diverticulum. The woman who had a sensation in the right fossa felt the lump in the right tonsil fossa, yet when you palpated that fossa she said, "That is not where the sensation occurs." She was also given the usual routine examination, including a thoroscopy, and this is the small traction diverticulum. With simple washing of it, instructing her following her ingestion of food always to take a glass of water and wash it out, she was relieved of her symptoms. There is a definite organic basis for her lump in the throat.

(Slide.) This is a very interesting case. This is a woman who had a diagnosis of a mediastinal malignancy. This is to show how the roentgenologist can make or break you in certain conditions.

This lady had a diagnosis of mediastinal tumor on the basis of this nob right here. In the actual film, that shows very distinctly. It is a nob or lump standing out. She was given X-ray treatment without any relief of her symptoms; then she came because she was not satisfied with the condition.

(Slide.) This is a good X-ray taken in the proper position, showing an enormously dilated esophagus. She had a cardiospasm, an enormous dilation of the esophagus. A simple flat plate taken in a very poor position showed nothing but this nob up here. The original diagnosis was made on an examination that was not even routine—a simple hurried flat plate with a hasty diagnosis.

(Slide.) This is an old gentleman who went to a doctor complaining of shortness of breath, some difficulty in swallowing, and food lodging in his throat. He came in July or June to the physician. He had a simple flat X-ray of the chest taken, and that was all.

The diagnosis was rendered of chronic bronchitis, and he was sent home. He came into my office in September with the statement that his difficulty in swallowing was so great that he could not get food beyond the base of his tongue. He was so hungry that he tried to cram the food down, and then he had to use his finger to rake it out again.

Reviewing the films that had been taken in June, at which time the flat plate was taken, the

roentgenologist paid more attention to the history than did the physician, and did a barium fluoroscopy with this result:

This is the barium lying on the epiglottis in the hypopharynx. This is a lateral of the same thing. It was noticed, the report was given to the physician, who ignored it entirely and centered simply on the man's chest and shortness of breath. This other matter was ignored entirely.

When we saw the man it was noticed that he sat down every opportunity he had. He was a peculiar, wizened-faced, monkey-looking little fellow with a slight defect in speech; and because of this total inability to even get the food through the pharynx he was given some prostigmine, with the result that he immediately became active and went down to the grill and ate a steak and potatoes and everything else. The prostigmine was left off and at the night meal he had some difficulty, although he was able to get down some soft food.

At his morning meal he was unable to swallow anything. The prostigmine was repeated, with the similar result that he immediately pepped up, his facial expression changed, his speech cleared up, and a diagnosis of myosinia gravis was made.

(Slide.) This is a very interesting case of a young man 25 years old who stated that his throat had never felt right as long as he could remember. He had always felt something in it. He went to a physician because he developed some burning sensations in the stomach. A gastrointestinal X-ray was made and a supposedly complete study was made. The diagnosis of ulcer was made, and the boy was advised to have a vagotomy because of his ulcer.

He was not satisfied. While he had the burning stomach, it was a sensation in his upper throat of something there that concerned him more. He gave the additional history that when he leaned over to pick up a heavy object and lift it, when he pulled something "popped" into his chest.

He was sent for study of the hypopharynx and the esophagus, and his lesion was presented. Here is a large bubble with the barium passing around it and going on down. That bubble could be seen to go up and down with the swallowing action.

(Slide.) An upper esophagoscopy revealed this polyp with a peduncle not much larger than a match. When he swallowed it went down. If he leaned over and pulled, it flopped up into his throat. He had a very definite sensation. That probably was a congenital lesion, and probably he had had it all his life.

The boy had had a GI study without anybody seeing it, and it was because he was sent to the roentgenologist—that might be one of the reasons—the man would have found it anyway, but it emphasized the point that if you send a patient to a roentgenologist, tell him exactly what you want to see. Give him a break so he can concentrate on the area in which you are interested.

In due justice to the internist, the roentgenologist doing gastrointestinal X-ray is naturally interested from the thorax down and not the upper esophagus, although I think it is customary to view the whole thing from top to bottom.

(Slide.) This is a condition that is known as curling or wrinkling of the esophagus.

(Slide.) Here are two more examples of it. It has no significance. Rather interestingly, I have been looking at the esophagus for twenty-five years, and until three or four years ago I didn't recall ever having seen this lesion before, with one exception about fifteen years ago, at which time I did not recognize it.

In this condition if the roentgenologist looks for it, he will find it frequently, but it has no significance in spite of how horrible it looks. The esophagoscopy shows nothing. It is symptomless. There is no adequate explanation. It resembles a corkscrew, or takes all sorts of formations, and occurs during peristalsis of the esophagus. Occasionally you will see where the barium has passed this portion, but as far as we know it has no pathology.

The point of this whole thing, gentlemen, is that an accurate, complete study must be made with a close study by the roentgenologist of any sensation in the throat when you cannot definitely see the lesion somewhere from the hypopharynx up.

Thank you. (Applause.)

DR. W. F. ORR (Nashville): Mr. President and members of the Association: I am in hearty agreement with Dr. Stinson concerning his paper on globus hystericus. A review of the recent literature concerning psychiatric literature on globus hystericus is remarkable for the absence of any statements regarding it, whereas the old literature was full of such statements concerning the psy-

chiatric treatment of globus hystericus. Whether this is due to the fact that the conversion hysterias which this represents have changed in the passage of time, or whether it is a fact that people did not make such excellent studies as Dr. Stinson has presented here has been the cause, it is difficult to say. It seems more probable that the fact is that people did not look for these conditions, which now we know may cause a lump in the throat.

This is confirmed by the fact that in psychiatric outpatient clinic at Vanderbilt Hospital it has been with extreme rarity that a patient has come in with a complaint of globus hystericus, and it is with some rarity that we see these symptoms.

However, I believe they do occur as a definite psychiatric disease, and may occur from the fancied idea that something is in their throat, and this is something which they cannot swallow. These patients, I do not believe, will respond to simple suggestion nor to placebos or such things, but will require rather deep and long psychotherapy.

I wish again to thank Dr. Stinson for his excellent review of the subject, and to repeat what I have previously said, that I think most cases of globus hystericus are primarily organic. (Applause.)

DR. STINSON (Memphis): I have nothing further to say, Mr. President. I want to thank Dr. Orr for his discussion, and I want to emphasize further what he said.

I do not contend that all these cases are organic, but that most of them are organic and that you are never justified in any other diagnosis until all possible means have been used to rule out an organic cause.

Thank you very much. (Applause.)

# THE JOURNAL

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W. M. HARDY, M.D., Editor and Secretary

OCTOBER, 1947

## SECRETARY'S LETTER

American Medical Association  
Chicago 20, Illinois

September 29, 1947.

Representative Forest A. Harness (Republican, Indiana), chairman of the subcommittee investigating government publicity and propaganda, has shed more light on the government health mission which took off for Tokyo some time ago.

In a letter addressed to Chairman John Taber, of the Appropriations Committee, Harness urged the committee to eliminate all future funds for overseas travel for staff members of the Social Security Board, the U. S. Public Health Service, and other federal agencies interested in advancing socialized medicine in foreign lands.

Harness' letter to Taber was based on a six-weeks' investigation into the health mission to Tokyo, which departed on August 28 to prepare a national health program for the Japanese Diet.

After reviewing the history of the Tokyo health mission, Harness presented eight specific charges and findings as the conclusions of his committee's inquiry:

"(1) That the health mission to Japan is composed entirely and exclusively of men long identified in the public record as advocates and proponents of socialized medicine not only in the United States but throughout the world.

"(2) That the real purpose of this mission is to lay the groundwork for a system of socialized medicine in Japan.

"(3) That the scheme for such a mission originated in the Division of Research and Statistics in the Social Security Board in Washington, and nowhere else.

"(4) That the nominal request for the mission was engineered through the General Headquarters of the Supreme Commander in Tokyo by federal employees sent from Washington for that particular purpose.

"(5) That General Douglas MacArthur does not favor—and does not approve—any plan to establish compulsory socialized medicine in Japan.

"(6) That the dispatch of this mission to Tokyo for the purpose indicated in Mr. Wandel's letter to Mr. Falk under date of June 14, 1947, is a gross misuse of public funds.

"(7) That the real purpose of the mission is not to assist Japan in working out her basic problems in health and welfare, but to force upon that country a compulsory system of socialized medicine.

"(8) That, although the questions here involved are of a health and medical nature, the Surgeon General of the United States Army was not consulted in reference to the problems involved."

Harness' letter said further:

"I deem it inappropriate for federal employees, at the expense of the American taxpayer, to travel throughout the world preparing or assisting in the preparation of legislation to be adopted by foreign countries when similar legislation, long pending, has not been approved by the Congress of the United States.

"We are continuing our investigation of the origins and real purposes of the Tokyo health mission. Meanwhile we believe that your committee would want to have these facts before it when the next appropriation bill comes up for the Public Health Service and the Social Security Board."

In his letter to Taber, Harness referred to the fact that one of the members of the mission was Bernet M. Davis, Surgeon, U. S. Public Health Service.



"It has also come to the attention of our committee," the letter said, "that Dr. B. M. Davis, one of the members of the Tokyo mission, returned only recently from London, where he was attached to the British Ministry of Health, to assist in the national program for socialized medicine in England. He is the son of Mr. Michael M. Davis, chairman of the executive committee of the Committee for the Nation's Health, the foremost lay organization agitating for socialized medicine in the United States, as embodied in the Wagner-Murray-Dingell bill. The Committee for the Nation's Health, as our previous reports have delineated, is the principal national organization in the United States engaged in distributing the propaganda of the Social Security Board supporting socialized medicine."

*Seven States Plan Hospital Building.* Nearly all states have now made surveys under the Hospital Construction Act enacted by Congress. Seven states have already prepared plans for construction and have had them approved. They are: Mississippi, North Carolina, Indiana, Illinois, Kentucky, Oklahoma, and Washington. The seven are now in the process of securing funds locally. Four other states have submitted construction plans to Washington for approval. They are: Tennessee, North Dakota, New Mexico, and Colorado.

The purpose of the hospital act is to help the states and local communities build hospitals and health centers where they are most needed. Each dollar of federal funds must be matched by two dollars of state and local funds for both survey and building costs.

*Serves on Accident Committee.* Dr. Lauren Avery, Chicago, has been appointed by the Board of Trustees to membership on the Committee to Study Problems of Motor Vehicle Accidents to succeed the late Dr. Charles W. Roberts of Atlanta. Dr. Herman Heise, Milwaukee, is chairman of the five-man committee which was first appointed in 1936.

Sincerely yours,

GEORGE F. LULL,

*Secretary and General Manager.*

## DEATHS

FREDERICK CHARLES JAMES, M.D.

Frederick Charles James, M.D., Gadsden; Kentucky University Medical Department, Louisville, 1903; aged seventy-four; died August 20, 1947.

HENRY CLAY LONG, M.D.

Henry Clay Long, M.D., Knoxville; Vanderbilt University School of Medicine, Nashville, 1914; aged sixty-three; died suddenly September 15, 1947.

WILLIAM PRICE WOMACK, M.D.

William Price Womack, M.D., Flat Creek; University of Tennessee School of Medicine, Memphis, 1933; aged forty-three; died September 16, 1947, following a heart attack.

MILTON THARP, M.D.

Milton Tharp, M.D., Topeka, Kansas, formerly of Nashville; Vanderbilt University School of Medicine, Nashville; aged fifty-eight; died suddenly on September 26, 1947.

LESLIE P. HERD, M.D.

Leslie P. Herd, M.D., Elizabethton; University of Tennessee School of Medicine, Memphis, 1925; aged forty-eight; died August 8, 1947.

## RESOLUTIONS

*Whereas*, in the wisdom of the Divine Father, Dr. Price Womack, a member of the Bedford County Medical Society, has been called from our midst; and

*Whereas*, we desire to pay a last tribute of respect to him as a gentleman who possessed high ethical and noble ideals—

As a doctor he was efficient and never tiring in his work, a man who held the highest confidence and esteem of the members of his profession and those whom he served through the brief years he lived.

His untimely passing brings sorrow and a deep feeling of the great loss we have sustained.

*Therefore*, be it resolved that we publish these resolutions in our State Medical Journal and send a copy to the family.

T. R. RAY, M.D.;

ALFRED FARRAR, M.D.;

W. H. AVERY, M.D.

#### RESOLUTIONS OF REGRET ON THE DEATH OF LESLIE P. HERD, M.D.

*Whereas*, it has pleased our heavenly Father, in His infinite wisdom, to remove from our midst Dr. Leslie P. Herd, who was one of Elizabethton's leading physicians;

We, the members of Washington, Carter, and Unicoi County Medical Society bow in submission to the will of Him who doeth all things well; but,

*Whereas*, Dr. Herd was our beloved associate and an enthusiastic and loyal member of the Tri-County Medical Society. He was a man consecrated to his work and a Christian whose influence for good was brought to bear directly and indirectly upon the lives of many men and women.

*Therefore*, be it resolved, That we express our heartfelt regret at his loss and order that a copy of this resolution be placed upon the records of this Society, and that a copy be transmitted to Dr. Herd's surviving relatives, to whom we express our deepest sympathy in their sorrow, and that a copy be forwarded to the Secretary of the Tennessee State Medical Association for publication. Done this the 29th day of September, 1947.

JOHN L. HANKINS, M.D.;

ROBERT H. HARVEY, M.D.;

E. T. PEARSON, M.D.

#### AND WE QUOTE

[The August issue of the *North Carolina Medical Journal* discusses the Harness report and closes with the paragraph given below. We also quote from the same *Journal* another editorial on the work of the National Physicians Committee.]

"It may be recalled that the National Physicians Committee has been the principal target of abuse for the proponents of socialized medicine, and that over a nation-wide radio broadcast this organi-

zation was accused of having 'spent one million dollars for the publication and distribution of one pamphlet.' Dr. Edward Cary, appearing before the Murray Committee, refuted this accusation by showing that in six years the National Physicians Committee had spent only \$905,359.23 on all its activities. It is a tribute to the National Physicians Committee's management that with this sum, paltry by comparison with the seventy-five million dollars spent by federal government agencies in one year, a handful of men have been able to withstand the onslaught of 45,000 federal employees 'engaged, full or part time,' in propaganda activities. Perhaps, after all, there is justification for Abraham Lincoln's faith that right makes might."—*North Carolina Medical Journal*, August, 1947.

#### THE NATIONAL PHYSICIANS COMMITTEE VINDICATED

One of the many controversial issues contained in the widely publicized report of the Raymond Rich Associates, dealing with the public relations of the American Medical Association, was its criticism of the National Physicians Committee—criticism admittedly based on hearsay evidence. At the December meeting of the House of Delegates of the American Medical Association, the reference committee appointed to study the Rich Report—of which Dr. William Bates of Pennsylvania was chairman—recommended, "in view of the controversial nature of the Rich Report and in view of lack of documentary evidence relating to the National Physicians Committee . . . further study of this portion of the report."

At the next meeting of the House at Atlantic City, the Bates Committee offered a supplementary report dealing with the National Physicians Committee. The report stated clearly that every charge made against the National Physicians Committee by the Rich Associates had been investigated and found to be absolutely without foundation. This portion of the report, exonerating the National Physicians Committee, was adopted unanimously. A sec-

ond recommendation of the Bates Committee moved a vote of confidence in the National Physicians Committee. A few members objected to this recommendation on the ground that the American Medical Association might lose some of its dignity as a result of being associated with an organization which is frankly engaged in propaganda and in lobbying. None denied that the National Physicians Committee had done more than any other agency to save the country from political control of medicine, but some doubted the expediency of having it recognized by the American Medical Association. Dr. Holman Taylor of Texas scored a bull's-eye when he compared the American Medical Association to a gentleman who, after being rescued from a robber by a prize fighter, brushed his clothes and refused to thank the rescuer because he was not his social equal. The House roared with laughter, and then voted by a large majority to endorse the National Physicians Committee. — *North Carolina Medical Journal, August, 1947.*

### NEWS NOTES AND COMMENTS

Dr. Elsbeth Gehorsam announces the opening of offices at 1051 Madison, Memphis. Practice limited to psychiatry.

The Acuff Clinic has been opened at 514 West Church Avenue, Knoxville. Connected with the Clinic are Drs. Herbert Acuff, Kyle C. Copenhaver, James B. Ely, Park Niceley, Willard J. Irwin, Harry Jenkins, Edwin T. Coleman, B. M. Overholt, Robert C. Kimbrough, Jr., N. M. Newport, Jesse C. Hill, Ralph H. Monger, and Frank Rogers.

An educational seminar covering the entire field of malignant diseases will be held November 12, 13, 14, 1947, in the auditorium of the Roosevelt Hotel, Jacksonville, Florida. This seminar is under the auspices of the American Cancer Society, Florida Division, and is being staged by the Tumor Clinic of the Duval County Hospital, Jacksonville, Florida.

An open invitation is extended to all physicians who find it possible to attend.

Details of the meeting may be obtained by writing the Tumor Clinic of the Duval County Hospital, 2000 Jefferson Street, Jacksonville, Florida.

The American Academy of Allergy will hold its annual convention at the Hotel Jefferson, St. Louis, Missouri, December 15-17, 1947. Advance copies of the program may be obtained by writing to the Chairman of Arrangements, Charles H. Eyer mann, M.D., 634 North Grand Boulevard, St. Louis, Missouri.

From time to time there has appeared in the JOURNAL announcements of new locations or new offices as they open all over the state. To a large extent these have been confined to Middle Tennessee. Doctors in other parts of the state have not sent such announcements to the JOURNAL office. It has long been a policy of the JOURNAL to publish all announcements received, and we hope that in the future this feature of news notes and comments will be more complete.

Dr. William F. Meachan announces the opening of his office at 2122 West End Avenue, Nashville. Practice limited to surgery of the nervous system.

The following physicians were accepted into fellowship at the Thirty-Third Convocation of the American College of Surgeons held in New York on September 12:

John H. Dougherty, Knoxville  
Milton L. Evans, Memphis  
William T. Howard, Memphis  
Frederick M. Jacobs, Memphis  
Hugh Smith, Memphis  
E. Malcolm Stevenson, Memphis  
Charles K. Gardner, Nashville  
Robert H. Magruder, Nashville  
Louis Rosenfeld, Nashville  
Oscar B. Murray, Chattanooga  
John J. Killeffer, Chattanooga  
Ben H. Marshall, Fayetteville  
Dana W. Nance, Oak Ridge  
Joseph E. Young, Sweetwater



Claudius Meade Capps, M.D., announces the removal of his office from Biddle Heights to 108½ Empire Building, corner Market and Church Streets, Knoxville, for the practice of Eye, Ear, Nose, and Throat diseases.

The September issue of the *Journal of the American Medical Association* reports the action of the Council on Pharmacy and Chemistry in rescinding the acceptance of sulfonamides for local application. Reasons for this action are given in full on page 157 of the *Journal*, the closing paragraph of which read:

"The Council believes it necessary to emphasize again the potential hazards of the indiscriminate topical use of sulfonamide preparations. Inquiries are being received concerning the local use of sulfonamides in conditions of which there is no evidence of their value, such as hair tonics to control dandruff and promote growth of new hair, in shave creams to prevent infection, and in other equally inconsequential preparations. Not only are the sulfonamides ineffective in such preparations, but their use in any concentration represents a real danger to the user for three reasons: (1) the substitution of an ineffective remedy for one which might be of value; (2) the possibility, now widely recognized, of permitting the development of sulfonamide resistant organisms; and (3) the development of cutaneous sensitization, thus preventing the use of sulfonamide in serious conditions for which these drugs are known to be effective."

## WOMAN'S AUXILIARY

The Board of the Woman's Auxiliary to the Tennessee State Medical Association met in Nashville at the Hotel Hermitage, September 11, 1947, at 2:00 P.M., with the President, Mrs. Robert Patterson, Knoxville, presiding. There were twenty-two members present. The afternoon was spent in a worth-while way. Matters of importance to the medical profession in relation

to the public were discussed and passed upon.

The four major subjects which are to be projected in the auxiliaries over the state this year are:

(1) Health Essay Contest to be sponsored by the State Auxiliaries in the seventh grades of all schools in counties where there are auxiliaries.

(2) Schools of instruction are to be held in the auxiliaries for the benefit of auxiliary officers and chairmen.

(3) Each auxiliary is to help in every way possible to interest girls to go into the nursing profession.

(4) In each section of Tennessee there is to be a Public Relations Day sponsored by the medical auxiliaries. The president and another representative from every lay woman's club in each section of the state will be invited to attend. The purpose is to give out facts and information by well-informed speakers on:

(a) Nurse recruitment.

(b) Prepayment medical care as worked out by the Tennessee State Medical Association for the State of Tennessee. All the auxiliaries in the state will devote a few minutes at each monthly meeting to the study of the prepayment medical care plan.

We agree with Dr. H. H. Shoulders when, speaking to us at a Board meeting in Chicago, he said: "When the Auxiliary was created it was recognized that women would be a factor in determining political problems, and our value as an auxiliary will be directly proportional to the knowledge we have of our responsibility." We must first get information before we can disseminate it.

We have taken as our watchword this year, "Be prepared to take seriously the task assigned."

The President of the American Medical Association, Dr. Edward L. Bortz, and the President of the Auxiliary to the American Medical Association, Mrs. Eustace A. Allen, recommend "Medicine in the Changing Order" as the book of the year for physicians and wives. The book is published by the Commonwealth Fund, 41 East Fifty-Sev-

enth Street, New York 22, New York; price, \$2.00.

Although the afternoon of the Board meeting was hot and the meeting long, there was a feeling of gratification and satisfaction that the work planned was carrying out the objectives of the Auxiliary—Health Education, Public Relations and Legislation, and that we were in reality an Auxiliary to the Tennessee State Medical Association.

At seven o'clock that evening members of the Board were entertained at dinner by Dr. and Mrs. C. S. McMurray at their home on Fairfax Avenue. Following dinner, Dr. Daugh W. Smith spoke to the guests. He emphasized the part that the Auxiliary members must play in educating the public as to features of various prepaid medical care plans and medical welfare in general.

In conclusion, Mrs. Patterson expressed satisfaction at the results accomplished by the day's meeting and announced that she would visit the various auxiliaries over the State in October.

## MEDICAL SOCIETIES

### *Davidson County:*

September 16: "Basic Principles of Electrocardiography," with Dr. David Strayhorn as moderator. Collaborators: Drs. Thomas Frist, Crawford Adams, Allen Kennedy, W. R. Cate.

September 30: "Antibiotics," by Dr. Chester S. Keefer, Director of the Evans Memorial Hospital and Physician in Chief, Massachusetts Memorial Hospital, and Professor of Medicine, Boston University School of Medicine.

### *Knox County:*

September 9: "Gunshot Wounds of the Abdomen," by Dr. J. B. Ely. Discussion by Dr. Charles Smeltzer.

September 23: "Atherosclerosis of Coronary Arteries as to Pathology, Diagnosis, and Treatment," by Dr. L. C. Caylor. Discussion by Drs. Ralph Nichols and R. B. Wood.

### *Mid-Tennessee Scientific Medical Society:*

The Mid-Tennessee Scientific Medical Society, including twenty-five doctors from Giles, Lincoln, Lawrence, and Maury counties, held a meeting September 25, in Columbia, at which Dr. James A. Kirtley, Jr., Nashville, was the chief speaker. His topic was "Recent Surgical Advances in Blood Vessel Diseases."

Dr. J. B. Miller, president, presided, and announced the next meeting will be held December 18 in Pulaski.

### *Sullivan-Johnson County:*

A combined meeting of the Sullivan-Johnson and Tri-County Medical Societies was held at the Johnson City Country Club Thursday night, September 11, 1947. There were sixty-five members and guests present.

Dr. Franklin Bogart of Chattanooga, President of the Tennessee State Medical Association, was the guest speaker. His subject was "Treatment of Cancer of the Cervix and Body of the Uterus." Dr. Bogart emphasized the importance of early diagnosis and treatment of cancer in women. He emphasized that the treatment of each case was an individual problem and pointed out the indications and role of surgical treatment and radiation treatment with radium and X-ray in various types of cancers involving the uterus.

WALTER D. HANKINS, M.D.,

*Secretary-Treasurer.*

## OTHER MEDICAL SOCIETIES

The sixth annual meeting of the American Academy of Dermatology and Syphilology will be held in Chicago on December 6-11, 1947, it is announced by Dr. Earl D. Osborne, Secretary-Treasurer, 471 Delaware Avenue, Buffalo, New York.

The one hundred sixth semiannual meeting of the Middle Tennessee Medical Association will be held in the American Legion Hall, Winchester, on November 20, 1947. The invocation will be given by Rev. W. B. Spraker, and the welcome address will be

given by Dr. George L. Smith, President of the Franklin County Medical Society.

Officers are: Drs. Clarence S. Thomas, Nashville, President; Carl Adams, Woodbury, Vice-President; and C. N. Gessler, Nashville, Secretary-Treasurer.

The program will include papers by Drs. R. L. McCracken, Nashville; Albert Weinstein, Nashville; Cleo Miller, Nashville; W. J. Wilkison, Springfield; Burnett Wright, Nashville; Allen Kennedy, Nashville; and H. H. Shoulders, Nashville.

## ABSTRACTS OF CURRENT LITERATURE

### ANESTHESIA

By H. M. AUSHERMAN, M.D.  
Medical Arts Building, Chattanooga

A Century of Clinical Anesthesia and One Hundred Years of Controversy. H. R. Raper. *Journal of Dental Anesthesia*, Vol. 33, pp. 1509-1519, December 1, 1946.

The centenary of the introduction of ether into surgical practice is also the one hundredth birthday of the controversy over who shall be called the discoverer of anesthesia. A fitting way to celebrate the centennial would be a sincere effort to come to an agreement and settle the differences of opinion. The history of the discovery of anesthesia is similar in basic outline to the story of the discovery of penicillin. In the case of anesthesia, Wells and Long, who originated the idea, received less recognition than Morton, who introduced the method. In the case of penicillin, Florey and his co-workers have never denied Fleming the credit for his discovery. Although Wells' attempt to introduce anesthesia into surgical practice failed, it was a step along the road to success. It gave Morton warning of the mistake of removing the inhaler too soon. It made the Boston medical men more receptive to the idea when Morton offered it to them a second time.

No single candidate can be named discoverer of anesthesia without stirring up opposition. An attempt to name more than one man has been tried without success. The mere naming of the men is not enough; an effort to name the right men should be made. Wells, Long, and Morton are the discoverers. Wells and Long should be designated the "Father of Anesthesia," and Morton the "Messenger of Anesthesia." Other candidates should be classified as "Pioneers of Anesthesia." The striking thing about the history of anesthesia is the enduring usefulness of the first two agents, ether and nitrous oxide. The medical profession owes

dentistry credit for the discovery of general anesthesia. The dental profession owes credit to physicians for the introduction of local anesthesia which started with the discovery of the anesthetic action of cocaine by Carl Koller in 1884. The anesthesiologist is an expert in the control of pain. He should be consulted not only in anesthesia, but in a great many cases for any kind of pain. New drugs, new methods, a new specialty in medicine have all been developed in the last century.

### CARDIOLOGY

By J. ALLEN KENNEDY, M.D.  
Bennie-Dillon Building, Nashville

Bacterial Endocarditis: Experiences with Penicillin Therapy at the Massachusetts General Hospital, 1944-1946. Oglesby Paul, M.D., Edward F. Bland, M.D., and Paul D. White, M.D., Boston. *The New England Journal of Medicine*, Vol. 237, No. 10, pp. 349-354, September 4, 1947.

This paper represents the experiences of the Massachusetts General Hospital in the treatment of bacterial endocarditis from 1944, when penicillin was first used, to the present time. During this period forty-four patients were treated with penicillin.

Criteria used for diagnosis were strict and included a minimum of three blood culture flasks positive for the same bacteria. Cases were not selected, and all patients in whom the diagnosis was made were treated and included in this series, even though the treatment lasted only a few days.

Thirty-six patients (eighty-two per cent) had rheumatic valvular heart disease; six patients (fourteen per cent) had congenital heart disease.

Upper respiratory infections and dental extractions were considered to be probable sources of bacterial endocarditis in forty-one per cent of the cases.

All patients had significant heart murmurs at the time of admission. Forty-one per cent had enlarged spleens, and one-third had petechial hemorrhages.

Organisms were obtained either by blood culture during life or by culture post mortem in all but one. In thirty-six cases (eighty-two per cent) the infecting organism was the alpha hemolytic streptococcus.

Bacterial sensitivity tests to penicillin showed that in twenty-six cases (of the thirty-one tested) the penicillin concentration required to inhibit growth was less than one unit per cubic centimeter.

There was considerable variation in the manner of administration and the dosage of penicillin. The smallest amount of penicillin resulting in cure was 2,685,000 units over a period of fifteen days by intravenous drip. The largest amount em-



played was 442,000,000 units given over a period of 314 days. However, most successfully treated patients received on the average a three-weeks' course of 500,000 units daily.

The authors point out that since an individual patient is not an "average case," careful bacteriological control is essential in determining the best dose of drug. The amount of penicillin that will maintain the blood level at least five times that indicated by culture sensitivity tests is regarded as the necessary dosage.

In twelve patients in which difficulty was encountered in controlling the infection with penicillin alone, sulfadiazine also was administered.

Transfusions were given fifteen patients. Anti-coagulants were not employed.

Of the forty-four patients treated, twenty-nine were cured.

## GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.  
649 Doctors Building, Nashville

### Advances in Practical Prevention of Gynecologic Cancer.

Robert J. Crossen, M.D., St. Louis, Missouri. *American Journal of Obstetrics and Gynecology*, Vol. 54, No. 2, pp. 186, 187, August, 1947.

Cancer prevention involves the removal of chronic irritation, by conization for cervicitis and by vulvectomy for leucoplakic vulvitis, and the removal of involution ovaries and uterus under suitable circumstances. Periodic examinations are necessary to discover chronic irritation before malignant development starts and to discover cancer in involuting ovaries or uterus or breasts while it is still in a curable stage. Yearly checkups were formerly considered sufficient, but owing to the difficulties of detecting early ovarian cancer that interval is too long to guard the patient against advanced malignancy. That fact was learned by bitter experience. A patient whose adnexal areas were apparently clear on examination returned seven months later with an irremovable ovarian cancer. Careful checkups at six-month intervals for the two decades, aged forty to sixty years, constitute the minimum requirement for reasonable safety from incurable malignancy. In addition to the usual deep pelvic palpation and the speculum examination and the check of the breasts for beginning infiltration, the checkup should include percussion of the flanks for possible ascitic fluid. A small amount of free fluid in the peritoneal cavity is often the first demonstrable sign of the chronic peritoneal irritation associated with ovarian carcinomatous infiltration. Owing to the cancer potential of the involuting ovaries and the "silent" advance to incurability of most ovarian cancers, it is advisable to remove the involuting ovaries whenever the abdomen is opened in the climacteric age (forty-three years and later), except where there is some definite contraindication

to this additional work. The cancer potential of the involuting endometrium should be taken into consideration when handling nonmalignant uterine conditions requiring serious treatment. For example, a myoma causing persistent serious symptoms in spite of palliative measures confronts us with the alternative of stopping the myoma activity by radium treatment (with curettage to exclude malignancy and conization if cervicitis is present) or removing the growth by the major operation of hysterectomy. The author's report of five hundred myoma-radiation cases, previously referred to, may be found tabulated the cases given permanent relief and those not relieved. Also, they found that, though the risk of future malignant development was cut to one-third by radium treatment, there still remained a malignancy risk of eighty-nine hundredths per cent. The mortality risk of hysterectomy and double oophorectomy may be reckoned at one to two per cent, depending on the condition of the patient and the skill of the operator. Giving proper weight to these various factors in your study of the individual case will insure the safest and best treatment to your patient. In general, for the good operative risk, the seriously troublesome myoma occurring in the age of involution is preferably handled by complete hysterectomy and double oophorectomy. On the other hand, for the seriously handicapped patient the radium plan in a suitable case is a lifesaving measure, in that it stops the serious myoma activity without the great risk of a major operation. Leucoplakic vulvitis eventuates in cancer in a considerable proportion of the cases. In Taussig's series of 155 vulvar cancers, nearly half were preceded by leucoplakic vulvitis. Hence, the importance of prompt vulvectomy for this condition, unless there is a good response to vitamin A therapy as suggested by Hyams and Bloom. Delayed menopause indicates erratic endometrial and ovarian activity which increases the susceptibility to malignant development. It should be stopped by radium treatment, with associated curettage to exclude endometrial malignancy, conization if cervicitis is present, and accurate palpation of the ovarian areas under the anesthesia, with recording of findings for future reference and comparison.

## INDUSTRIAL MEDICINE

By JEAN SPENCER FELTON, M.D.  
Monsanto Chemical Company  
Clinton Laboratories  
Oak Ridge

**New Clinical Syndrome: Delayed Chemical Pneumonitis Occurring in Workers Exposed to Beryllium Compounds.** Harried L. Hardy, M.D. *Bulletin New England Medical Center*, Vol. 9, pp. 16-24, February, 1947.

A puzzling disease has appeared in recent years in a concern manufacturing fluorescent lamps. Dr. Hardy, of the Division of Occupational Hygiene of the Massachusetts Department of Labor and

Industries, presents the record of seventeen known cases of "delayed chemical pneumonitis." Although without an exact etiology, these cases have occupational histories and clinical features in common. Until recently beryllium has seen little use in industry. The manufacture of fluorescent lamps entails the use of beryllium compounds, and more recently, the element was declared a strategic metal by the Government because of its unusual properties when alloyed with copper.

Reports of industrial pulmonary involvement date to 1933, but characterizing the current group are (1) delay in onset following common exposure, and (2) progression of the disease in spite of change of environment. Of the clinical features, the onset is of interest in that four developed symptoms while at work after a long period of employment in the common environment. A second group became ill between three months and eighteen months after leaving, and the disease was noted in a third group as long as two or three years after discontinuing work. Symptoms were dramatic and consisted of weight loss, dyspnea, cough, and anorexia. Ten to forty pounds were dropped within the first year of illness, unrelated to food intake. Gastrointestinal symptoms intervened, and at times were more disturbing than those of the respiratory system.

On examination the patients presented a severe cachexia and dyspnea. Moist rales and infrequent friction rubs were detected in the lung fields. Hepatomegaly and splenomegaly were noted. Cyanosis was extreme. The roentgen findings in the main consisted of a diffuse stippling amounting to a ground-glass appearance. Many showed involvement of the entire lung fields, others a mid-zonal distribution of the changes.

Of the group, one has recovered, six were gradually improving in spite of persistent X-ray lung changes. Three are still very much disabled, and one other is orthopneic even at rest. Six have died, the average duration of the illness being two years. Antibiotics and chemotherapy have been ineffective, and supportive measures, physical as well as those directed towards the patient's morale, have proved helpful.

Laboratory findings showed a rise in globulin, but other procedures were essentially not significant. Of the differential diagnoses, miliary tuberculosis, Boeck's sarcoid, and silicosis must be ruled out. Of greatest importance is the history, for in *routine medical history taking in the twentieth century, a patient's occupational story is invaluable in making a correct diagnosis.* Delayed chemical pneumonitis will doubtless not prove an isolated example of a new clinical picture arising out of industry, in these days of heightened human ingenuity.

## OBSTETRICS

By MILTON SMITH LEWIS, M.D.  
Bennie-Dillon Building, Nashville

### A Discussion of Classification of Toxemias of Pregnancy.

L. E. Savel, Margaret Hague Maternity Hospital.  
American Journal of Obstetrics and Gynecology, Vol. 53, pp. 505-512, 1947.

The classification of the toxemias of pregnancy of the American Committee on Maternal Welfare is used as the basis for this discussion. The symptoms and signs associated with the diseases listed in the classification are tabulated for comparison and study.

Certain objective findings which may serve as points of differential diagnosis of the various toxemias of pregnancy are pointed out. Comparing mild hypertensive disease with mild pre-eclampsia, all the findings are fairly common, except the time of onset of symptoms. Hypertensive disease may manifest itself before twenty-four weeks' gestation, pre-eclampsia usually after twenty-four weeks. However, in any of the diseases "not peculiar to pregnancy" the appearance of symptomatology may be after twenty-four weeks, because the pregnancy may have served to light up already existing pathology. Following termination of pregnancy, the persistence of any or all signs for more than twelve to sixteen weeks will make it probable that the disease is not peculiar to pregnancy, and therefore hypertensive rather than pre-eclamptic.

Differentiation is sometimes difficult between severe hypertensive disease and severe pre-eclampsia. There is more pronounced edema, proteinuria, and frequent oliguria in severe pre-eclampsia, and the urea clearance usually remains normal in the pre-eclampsia.

Several items are characteristic enough of nephrosclerosis or chronic vascular disease to be differential. Albuminuric retinitis is severe in nephrosclerosis and more marked than seen in the other conditions. In nephrosclerosis, urinary specific gravity is always below 1,020 and often remains low and fixed and the urea clearance is low. Urinary specific gravity and urea clearance are lowered in severe hypertensive disease. In severe pre-eclampsia, urinary specific gravity and urea clearance are normal.

Urinary casts and red blood cells, along with diminished renal function, are differential in glomerulonephritis. Nephrosis is characterized by a marked edema and little or no elevation in blood pressure. Blood serum shows low protein and high cholesterol.

The aggravation of existing signs and symptoms of the diseases not peculiar to pregnancy occurring after twenty-four weeks' gestation must be construed to indicate the presence of superimposed pre-eclampsia.



The author demonstrates the necessity for blood chemistry studies and evaluation. During a random five-year period at the Margaret Hague Maternity Hospital, there were ninety cases of eclampsia, of which thirty-five were in the hospital before the first convulsion. Of these thirty-five, twenty-three (65.6 per cent) were classified as "mild pre-eclampsia" before the first convulsion. Thirteen eclamptics of this group had blood chemistries taken before the first convulsion. All thirteen patients had a uric acid/nonprotein nitrogen ratio exceeding ten per cent. Stander and Cadden found in a series of twenty consecutive eclamptics that all twenty had uric acid/nonprotein nitrogen ratios exceeding ten per cent. Therefore, it is suggested that the diagnostic criteria of toxemia of pregnancy should be: (1) blood pressure; (2) proteinuria; (3) edema; (4) blood chemistry. Pre-eclampsia should be classified and considered severe if the uric acid/nonprotein nitrogen ratio exceeds ten per cent.

The author emphasizes the fact that the differentiation between "mild" and "severe" pre-eclampsia is of hardly more than academic interest and suggests abandonment of these designations. Cosgrove and Chesley state that "one cannot assume that a case of mild pre-eclampsia is in no danger of eclampsia—almost two-thirds of all our eclampsia occurred in cases which we had considered mild pre-eclampsia."

## OPHTHALMOLOGY

By ROBERT J. WARNER, M.D.  
Doctors Building, Nashville

**Retina and Optic Nerve: Radon Seeds in the Treatment of Glioma Retinae.** S. Philips. *Archives of Ophthalmology*, August, 1947.

A boy five months old had the left eye removed for glioma of the retina. The right eye was normal. Four and one-half years later a glioma was noted in the upper nasal quadrant of the right eye. Permission for removal of the eye was refused by the parents, as an older brother had bilateral enucleation for glioma of the retina and died of intracranial extension. A three-millicurie radon seed was inserted in the growth and removed ten days later. The growth "shrank away." On two subsequent occasions reapplication of radon seeds was made for what was thought to be recurrence of the growth at the site of the original tumor. Three years later the eye was free from growth and visual acuity equaled 6/12. There were macular changes resembling retinitis circinata. At the age of nineteen vision was somewhat reduced owing to irradiation cataract. The author believes that what was supposed to be recurrence was in fact reparative fibrous tissue and that therefore the subsequent irradiations were unnecessary.

In the second case the diagnosis was that of bilateral glioma retinae in a boy aged eight months. The left eye was almost full of growth and was removed. In the right eye the growth was globular and measured six disk diameters in each direction. A 2.5 millicurie radon seed was introduced into the center of the growth. At the time of the report, three years and four months after irradiation, all that remained of the growth was a small, mulberry-like nodule, which had remained unchanged for two years. It seems unlikely that there remained any active growth in the eye. Visual acuity was about 6/12.

## PROCTOLOGY

By O. C. GASS, M.D.  
401 Medical Arts Building  
Chattanooga

**Lesions of the Terminal Colon Associated with Urinary Disturbances.** Joseph A. Lazarus, M.D. Surgery, Vol. 15, pp. 637-645, April, 1944.

This communication deals with lesions of the terminal bowel which give rise to urinary disturbances. The first condition considered is hemorrhoids. The second is carcinoma of the rectum, one of the most frequent sources of error in urologic diagnosis, particularly among men with hypertrophy of the prostate. Certain lesions in juxtaposition to vesical neck, although extrinsic to the genital tract, can and do give rise to prostatism. In order to avoid the danger of overlooking the presence of carcinoma of the rectum in patients presenting clear-cut histories of prostatism it is necessary to establish definite and fixed rules in examining these patients. The first is a carefully taken history, with emphasis upon changes in bowel habits. Rectal bleeding is extremely important, even in patients suffering from large hemorrhoids.

Every prostatic should have a careful digital rectal examination, especially above the base of the prostate. Failure to palpate anything suspicious does not relieve the examiner of the responsibility of performing proctosigmoidoscopic examinations upon patients presenting evidence of bowel disturbances, regardless of degree. A rectal carcinoma which gives rise to urinary disturbances usually presents certain fairly characteristic cystoscopic features. The most common is a localized area of bullous edema involving a portion of the base or posterior wall of the bladder, while the remainder of the bladder wall appears relatively normal. Occasionally one may even see an actual communication between the bladder and rectum. In the very early cases, instead of an area of bullous edema, one may notice a patch of hyperemia involving a localized area of bladder wall.

Another problem occasionally met is a patient who presents an enlarged prostate on rectal digital examination along with a rectal carcinoma. Cys-



toscopy discloses a well-defined median bar, but no intrusion of the prostate into the bladder or prostatic urethra.

Following relief of the prostatic obstruction, appropriate therapy should be instituted to remove the rectal lesion. However, if cystoscopy fails to disclose any casual relationship between the physical characteristics of the prostate and the presenting urinary symptoms, surgical intervention should be directed to the eradication of the rectal carcinoma without considering the gland.

The third consideration is that of diverticulitis of the sigmoid. The fourth is carcinoma of the sigmoid and rectosigmoid. Malignant tumors involving the sigmoid and rectosigmoid give rise to urinary symptoms as a result of pressure upon the bladder, or of direct involvement of the vesical wall by carcinomatous infiltration, or by inflammation. Urinary symptoms are elicited more frequently in cases where tumors have become adherent to segments of bladder wall by carcinoma-

tous infiltration or by inflammatory adhesions. Such tumors are more apt to be found in the lower third of the rectosigmoid. It is well known that tumors involving the left half of the colon are notorious for their tendency to occlude the bowel. It is therefore imperative to interrogate patients carefully concerning changes in bowel habits, regardless of the primary complaint. A history of bleeding from the rectum assumes added significance. Excessive loss of weight, especially when accompanied by asthenia, is suggestive of this type of lesions. The merest suspicion of malignancy warrants prompt sigmoidoscopy and barium enema studies to clinch the diagnosis.

When the intestinal lesion is the sole cause of urinary disturbances, the procedure is to eradicate the lesion in the bowel. If the lesions should involve both colon and bladder or prostate, the latter should have priority. Suprapubic cystostomy should be performed where actual or threatened perforation or fistula formation between the colon and bladder exists.

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## INDUSTRIAL HEALTH PROBLEMS IN THE SOUTH\*

E. J. GAYNOR III,† Brunswick, Georgia

Interest in the subject of occupation and health dates back to antiquity. Specific information has been preserved from as far back as the Greek and Roman periods. Aristotle recorded information regarding diseases of runners. Plato noted certain postural deformities among artisans. Pliny referred to the dangers caused by the handling of sulphur and zinc and made mention of masks made of transparent bladders, which were used by workers to protect themselves from metallic dust. Plautus spoke of respiratory trouble and the spitting of blood. These are just a few of the instances that have been recorded which show that health problems are not new to industry.

It is entirely possible that health problems today could and do vary in certain sections of the South, and for this reason I intend to talk about only those problems which affect our particular section—South-east Georgia.

I am sure of *our* problems in this section, and I know what we have done in the past to remedy those problems.

The scope and objectives of our Industrial Accident and Health Program have been as follows:

1. To ascertain, by examination, the

physical and mental fitness of employees for work.

2. To maintain and improve the health and efficiency of those already employed.
3. To educate our workers in accident prevention and personal hygiene.
4. To reduce lost time and absenteeism from illness or injury.
5. The creation of an active interest on the part of each employee in his physical condition and his comparative condition from year to year.
6. A feeling of mutual confidence between the employee and employer that the company will see that all work-connected conditions are adequately cared for, and that the employee will willingly assume personal responsibility for those not work-connected.

The items listed above will, if properly handled, mean much to any industry's accident and health program.

Each individual considered for employment with our company has to meet reasonable physical requirements for the position applied for as set out in our form of pre-employment examination. Minor conditions that should be corrected are sometimes handled by having the employee correct them before he is permanently employed. He is placed on a temporary basis until he has condition corrected. More accidents and health problems are eliminated by this phase of our program than all other items. It is at the time of the examination that

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most bodily defects, arising either from injury or sickness, are ascertained and either eliminated or taken cognizance of in relation to the individual's work and capabilities. Ignored, many of these defects would certainly make for accidents and health problems in future years. Mental fitness, too, is brought to the surface during this examination and by interview of the applicant by the personnel department.

To maintain and improve the health and efficiency of those already employed, we require an annual re-examination (as in the case of the pre-employment examination, at our expense) for the purpose of picking up conditions that have arisen subsequent to the original examination. Our medical adviser, after making re-examination, might feel that the employee is allergic to, or unfit for, the particular type work to which he is subjected. In case of this sort, he would request that such employee be transferred to a job of a different nature.

Most of you are aware of the fact that a syphilitic condition is, or was, prevalent in a great majority of our southern labor group. At the time our plant started operating in early 1938, it would have been next to impossible to refuse employment because of this condition, nor was this desirable. We employed men in good physical condition with the exception of a negative Kahn test on the condition that they receive adequate treatment. In the case of Negroes, this was given by the Glynn County Board of Health on company time and transportation for each individual. Results in the improved physical condition of these men were gratifying. In the case of white employees, the source of treatment was decided by the individual concerned. However, the company requested a report on treatment received.

May I digress for only a moment to say that our Glynn County Health Commissioner, Dr. M. E. Winchester, deserves a great deal of credit for the marvelous job he has done with reference to gonorrheal and syphilitic treatment and education in our county. His untiring efforts have aided our health program immensely.

Recently, with the cooperation of county

and state health officials, we did chest X-rays for tuberculosis. Only one positive individual was found at this time. We expect to continue this phase of our program in the future.

To educate the worker in accident prevention and personal hygiene, we have used the tools common to each of you—we provided a supervisor, competent nurses, and a well-equipped First Aid to sell safety and health. The safety supervisor uses the ordinary channels in securing an attentive ear and interest for safety, that of supervisory and employee committees, in addition to the ever eye-catching posters. Interdepartmental and interplant contests are used to arouse the ever-present competitive spark that rests in every individual's heart. Our nurses, with the right amount of constructive criticism, a pinch of psychology, and sincere interest, have gained the complete confidence of all employees and have thereby eliminated a great number of headaches that usually prevail in industrial health programs. Certainly the confidence enjoyed by our nurses permits discussions and advice relating to health problems arising outside the plant. All of these things tend to make healthier employees and at the same time makes for better employees in the generation to come.

To reduce lost time and absenteeism from illness, we have provided such items as cold vaccine tablets, vitamin tablets, salt and dextrose tablets, typhoid vaccine, and, in case of injury, adequate treatment and as early a return as possible to selected partial work, even though this was not financially profitable to the company at the time. We have made available a group life insurance and compensation policy and, in addition, hospitalization insurance for the employee and his family.

As evidence that the above has helped in securing a better accident and health program for our company, I mention a better than seventy-five per cent reduction in accidents since 1941 and approximately ninety per cent reduction in days lost.

We still have much to do to perfect our program—I hope that such perfection isn't too far in the future.

## MANAGEMENT OF ARTERIAL EMBOLI\*

JAMES A. KIRTLEY, JR., M.D., Nashville

A fatalistic attitude towards arterial emboli is no longer justifiable in the light of advances in vascular surgery and efficient anticoagulants. This fatalistic attitude persists because embolism is secondary to a serious underlying disease; because embolectomy is not successful unless performed soon after lodgment of the embolus; because in the period before heparin, secondary thrombosis often nullified the good effects of embolectomy. The underlying disease cannot always be controlled, but the time interval before operation can be reduced, and the use of anticoagulants will prevent thrombosis after removal of the embolus.

There have been three phases in the treatment of arterial emboli. The first phase was concerned with surgical removal of the embolus and began with an unsuccessful femoral embolectomy in 1896. Fifteen years elapsed before the first successful embolectomy in 1911. This was performed by Georges Labey in Paris on a 38-year-old man who had had a femoral embolus for six hours. About 300 successful embolectomies were done up to 1933, at which time the Paevex machine was introduced. This marked the beginning of the second phase, or non-surgical treatment of embolism. The Sanders oscillating bed was also used with some success at this time. The use of heparin and dicoumarol in conjunction with surgery brings in the third phase and promises better results than previous methods of treatment. Murray (Toronto) recently reported 17 successful embolectomies in 17 patients. Two of his patients had emboli at the aortic bifurcation. Heparin was begun at the time of operation and normal circulation was restored in each instance.

Arterial embolism most frequently results from chronic auricular fibrillation, but may follow rheumatic heart disease, myocardial infection, valvular disease, pneumonia, atheromatous lesions of the aorta, and rare-

ly extends from the venous system through a patent foramen ovale.

The diagnosis of arterial embolism is based on sudden pain in an extremity (50%—75%), numbness, loss of local heat, loss of sensation, blanching, diminished motor power and absence of arterial pulsation. Except for aortic "saddle" emboli, the circulation in the opposite extremity is usually normal. The exact cause of the pain is not known, but is thought to be due to the reflex spasm which involves the arterial tree in the affected extremity. A differential diagnosis must be made between arterial thrombosis, thromboangiitis obliterans, and thrombophlebitis. It is often impossible to differentiate between arterial embolism and arterial thrombosis. A sudden onset, history of cardiac disease, and evidence of occlusion at the bifurcation of an artery favor embolism. Occlusion of an artery in the presence of definite inflammatory or degenerative arterial disease would point to arterial thrombosis. Examples of these are thromboangiitis obliterans and arteriosclerosis, respectively. Trauma prior to arterial occlusion would also favor thrombosis.

Acute thrombophlebitis can usually be distinguished from occlusive arterial disease because of the edema, distended veins, tenderness over the deep veins and the palpable arterial pulsations. Sometimes these pulsations are greatly diminished due to the associated spasm.

The time interval between lodgment of the embolus and admission to the hospital is very important from the standpoint of prognosis and the type of treatment indicated. Dr. Gunnar Nystrom, Flexner lecturer at Vanderbilt Medical School in 1935, stated that in Sweden patients with embolic disease were flown to the nearest surgical clinic as emergencies. Before heparin was available, Pearse<sup>1</sup> reported that 40 per cent of the embolectomies done within 10 hours were successful, but only 14 per cent after this period. Reynolds and Jirka<sup>2</sup> used heparin immediately after operation in

\*Read before the Tennessee Medical Association, Memphis, April 8, 9 and 10, 1947.



their group and reported one successful case after 27 hours. The longer the time interval, the greater the likelihood of tail thrombi which extend into branches distal to the embolus. Not only can these thrombi not be completely removed, but they prevent effective collateral circulation and nullify the advantages of a free flow of blood after removal of the embolus.

The management of a patient with an arterial embolus may be quite complex, and is best done under the supervision of an internist and a surgeon. Allen, Barker and Hines<sup>3</sup> list three important "don'ts" in the treatment of embolism: "Don't delay treatment, as delayed treatment means a poor prospect of recovery in those instances in which recovery would not occur spontaneously; don't elevate the extremity, and don't subject it to heat which exceeds 95 degrees F."

There is some disagreement regarding the immediate use of anti-spasmodics, because cases have been reported in which the embolus moved from the femoral region to the popliteal after paraspinal injections. Gangrene and amputation followed. However, the advantages of anti-spasmodic drugs or procedures as early as possible outweigh the single above-mentioned disadvantage. It has been shown<sup>3</sup> that prolonged arterial spasm with its resulting ischemia causes changes in the intima of both arteries and veins, so that thrombosis is likely when the blood flow is restored.

In addition to an opiate for pain, papaverine hydrochloride (0.032 gms.) should be given intravenously. This relaxes smooth muscle and enlarges the venocapillary portion of the vascular bed. Tetra ethyl ammonium chloride is now being investigated for its properties in producing vasodilation by "blocking" the sympathetic nervous system. Paraspinal injections of procain are of considerable aid in improving collateral circulation by relaxing the arterial spasm. When properly executed they are as effective as a spinal anesthetic.

There is considerable controversy as to the use of heparin, pending the question of operation. From the reports of Reynolds and Jirka,<sup>2</sup> Lindgren and Wilander,<sup>4</sup> Pemberton<sup>5</sup> and others, there is little dif-

ficulty in controlling hemorrhage at the time of embolectomy in a patient whose coagulation time is several times normal. There may be considerable post-operative oozing from the wounds, though no serious results have been reported. The important principle, however, is the prevention of secondary thrombosis in the involved artery, and to prevent this, anti-coagulants must be effective within minutes after embolectomy. The injection of one milligram of heparin per kilogram of body weight into the artery at the time of arteriotomy, or 30 minutes before operation, will prevent thrombosis. Dicumarol (200 milligrams) may be given orally at the same time and repeated in 24 hours. Dicumarol does not become effective for at least 24 hours. Sodium citrate in 2.5 per cent solution has also been injected into the artery at the time of operation and will help prevent thrombosis until heparin becomes effective.

A clinical review of 28 patients with peripheral arterial embolism is presented. Three of these were personal cases operated on during the past year, and two others treated without operation. The patients are divided according to the position of the embolus.

*Popliteal Emboli (Table 1):* There were 10 patients in this group with three early deaths. The last patient listed also had thrombosis of the left common iliac extending into the aorta. Although this group is too small to permit any definite conclusions, it would seem that papaverine, paraspinal injections and heparin will give good results. If gangrene is still threatening after four hours, then embolectomy should be considered. In Case M553 a non-adherent thrombus 25 cm. long was removed from the popliteal artery after 27 hours, with restoration of blood flow. This patient received heparin post-operatively.

*Femoral Emboli (Table 2):* There was an immediate mortality of 50 per cent in this group. Case No. 828 probably did not have an embolus, but had arterial spasm secondary to an operation eight hours before. The last case was a personal one in which two mistakes were made: There was too long a delay before operation, although

TABLE 1—POPLITEAL ARTERIAL EMBOLI

Case No.	Age	Color	Sex	Source of embolus	Time interval	Site of embolus	Condition of extremity	Treatment	Early result	Late result
991	61	W	M	Heart	4 days	Lt. popliteal	Cold leg with early gangrene	Amputation thigh	Died 2 days after operation	
026	40	W	M	Heart	In hospital	Left	Cold and pulseless	None	Died 5 days after admission	
839	73	W	M	Heart	5 days	Right	Gangrene foot	Amputation thigh	Good	Died 5 yrs. later
264	71	W	M	Heart	In hospital	Right	Cool foot, but viable	Paraspinal injections	Improved	Alive
778	58	W	M	Heart	In hospital	Left	Cool foot, viable	Paraspinal injections	Improved	Alive
473	75	W	M	Heart	24 hours	Left	Cool foot, absent pulses	Paraspinal injections	Improved	Alive
748	47	W	M	Heart	6 hours	Left	Cool foot, absent pulses	Paraspinal injections	Improved	Alive
574	49	W	M	Rheumatic heart dis.	2 hours	Left	Cold leg, absent pulses	None	Improved	Died 1 yr. later
868	32	W	F	Multiple lung abscesses	In hospital	Right	Increasing gangrene	Amputation leg	Died 5 weeks later	
788	37	W	M	Heart	In hospital	Lt. Post. tibial	Cold and pale	None	Improved	Alive
M 553	56	W	F	Heart	27 hours	Right popliteal	Leg and foot cadaveric	Embolectomy	Little change	Died 11 days later

TABLE 2—FEMORAL ARTERIAL EMBOLI

Case No.	Age	Color	Sex	Source of embolus	Time interval	Site of embolus	Condition of extremity	Treatment	Early results	Late results
742	65	W	M	Heart	8 hours	Lt. femoral	Cold and pulseless	Amputation of thigh	Good	Alive
575	60	W	M	Heart	8 days	Rt. femoral	Gangrene right foot	None	Died 10 days after onset	
862	75	W	M	Aur. fibrillation	In hospital	Lt. ext. iliac	Leg cadaveric	Refused operation	Died	
828	44	W	F	Postop. hysterectomy (8 hrs)	In hospital	Lt. femoral Spasm? *	Extremities cold, cyanotic, but improved.	Papaverine	Improved Normal	
896	51	W	M	Heart	In hospital	Femoral and popliteal	Cold and discolored	Popliteal embolectomy	Died 9 days later. Gangrene of leg.	
	79	W	M	Heart	6 hours	Lt. femoral	Cadaveric and cold	Embolectomy 13 hrs. after onset	Amputation later. Prostatic resection later.	

\* Case No. 828 is possible arterial spasm.

TABLE 3—AORTIC EMBOLI (BIFURCATION)

Case No.	Age	Color	Sex	Source of embolus	Time interval	Condition of extremities	Treatment	Early result	Late result
830	50	W	M	Myocardial infarct	12 hours	Both cold and pulseless	None	Died 24 hours after embolus	
396	61	W	M	Heart	12 hours	Rt. thigh and leg cold and pulseless	Amputation (rt.) 5 days later (gas bacillus)	Died 10 days after amputation	
351	66	W	M	Heart	5 days	Bilateral gangrene (rt. > lt.)	Bilateral amputation of thighs	Died 18 days after last operation	
119	68	W	M	Heart	In hospital	Both extremities cold and pulseless	None Gangrene left leg	Died 6 days after onset of embolus	
366	60	W	F	Heart	11½ hrs.	Developed bilateral gangrene	None	Died 3 weeks after admission	
104	22	W	F	Rheumatic heart	9 days	Gangrene lt. leg Right cold and pale	Amputation lt. thigh	Improved	Alive
M 553	56	W	F	Heart	27 hours	Rt. leg cadaveric; lt. cold and mottled. Rt. femoral palpable; lt. femoral absent	Rt. pop. embolectomy. Lt. iliac embolectomy Amp. lt. thigh. Heparin post-operative	Died 11 days after embolectomy	

unavoidable under the circumstances; then, having removed an embolus at the bifurcation of the common femoral, and obtaining a free flow of blood, I repaired the opening in the artery without administering heparin. Thrombosis occurred, or possibly was present in the distal vessels, and gangrene of the foot and leg developed several days later. This patient should have had heparin or arteriectomy.

*Aortic Emboli (Table 3):* All of the seven patients with aortic emboli developed gangrene of one or both extremities, and all but one died in the hospital. Thus the mortality increases with the size of the vessel occluded and with the amount of tissues rendered ischemic. It might be argued that embolectomy is more urgent in femoral and aortic occlusion because of the higher mortality without restoration of blood flow. Harkins<sup>9</sup> in 1944 collected 19 successful aortic embolectomies, with half of them living from one to ten or more years. This group proves that embolectomy may be both life-saving and limb-saving.

*Emboli in Upper Extremity (Table 4):* The effects of occlusion of the axillary or brachial arteries are not as severe as in the

femoral, or even popliteal, although gangrene did develop in one instance and was possibly averted by embolectomy in another.

I wish to report the case of G. R., an 11-year-old white boy, who entered the hospital after a five-day illness characterized by headache, fever, vomiting and diarrhea. Temperature on admission was 105 degrees, and non-protein nitrogen was 148 mgs. %; the CO<sub>2</sub> combining power was 37, and blood chlorides 150. The spinal fluid was normal. Except for an area of mottled infiltration in the right lower lobe, consistent with a virus pneumonia, seen on a chest film, no cause for the illness was found. About 48 hours after admission, the child suddenly cried out because of pain in his left hand. When I first saw the child an hour later, the hand and forearm were blanched, cold and pulseless. The brachial artery was not palpable. The left carotid and temporal were palpable. Thermocouple readings made three hours after the onset showed the tips of the left fingers to be 11 degrees F. cooler than the opposite fingers, and to be one degree below room temperature. Following a left paraspinal block of T<sub>1</sub> and T<sub>2</sub>, the axillary artery became



TABLE 4—EMBOLI IN UPPER EXTREMITY

Case No.	Age	Color	Sex	Source of embolus	Time interval	Site of embolus	Condition of extremity	Treatment	Early results	Late results
275	71	W	F	Heart	5 weeks	Lt. sub-clavian	Gangrene of index and little fingers	Amputation of 2 fingers and embolectomy	Im-proved	Alive
104	22	W	F	Rheumatic heart	In hos-pital	Lt. axillary	Cool with feeble pulse	None	Im-proved	Alive
005	76	W	M	Heart	In hos-pital	Rt. brachial	Cool but viable	None	Im-proved	Alive
781	55	W	F	Probably heart	7 weeks	Rt. brachial	Cool. Absent pulses.	None	Im-proved	Alive
6066	11	W	M	Pneumonia right lower lobe	In hos-pital	Lt. brachial	Cold hand; absent pulse; loss of sensation	Embolec-tomy, after 5 hrs.	Im-proved	Excel-lent

palpable, but there was no increase in the surface temperature of the fingers, and sensation and motor power were now impaired and the hand was still cold and pulseless.

Five hours after onset, under local anesthesia, the bifurcation of the brachial and profunda was exposed and a clot the size of a .32 bullet (Fig I) palpated at that point. A short incision was made just distal to the bifurcation, and the embolus extruded itself, allowing a free flow of blood. The intima appeared perfectly normal and the vessel began to pulsate. The defect was closed with arterial silk and the adventitia injected with procaine. The skin temperature of the fingers returned to normal within a few hours, as determined by thermocouple readings. The radial pulse became palpable within five days, and there was full return of motor power and sensation. The boy had a normal recovery from his illness.

The origin of the embolus in this child is undetermined. Since there was no evidence of heart disease, we assumed that it arose near the area of pneumonitis. Sudden arterial occlusion at this level carries a fairly high incidence of gangrene. Antispasmodics and paraspinal blocks did not change the cadaveric appearance of the hand after five hours. There was no doubt among those of us in attendance that without embolectomy this boy would have had a crippled extremity even if his hand had survived.

In conclusion, certain points should be emphasized:

1. Patients having an arterial embolus are as much emergency patients as those with a perforated ulcer. The time interval must be under 12 hours for embolectomy to be successful, in most instances. After that time, arteriectomy is usually the best procedure.

2. Embolectomy is indicated whenever a major artery remains occluded after papaverine and paraspinal blocks have shown no improvement in the threatening gangrene. The age of the patient and the existing cardiac lesion are not contra-indications, since the operation can usually be done under local anesthesia.

3. Heparin should be used shortly before, or at the time of operation in almost all cases, as it will prevent the secondary clotting that so frequently follows intimal damage.

4. Patients do not die from embolectomy, but from the lesion which caused the embolus, or from the gangrene of the extremity, or from the amputation.

I would like to close with a statement made by Dr. Pemberton<sup>3</sup> several years ago: "There is no established operative procedure of equal simplicity fraught with so little risk and with such dramatic potentialities that has been so woefully neglected as embolectomy for circulatory disturbances of the extremities."

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## DISCUSSION

DR. R. B. GOTTSCHALK (Memphis): I should like to ask Dr. Kirtley or Dr. Wilson if they used continuous caudal anesthesia on any of these patients rather than giving the frequent blocks. Have you tried using continuous caudal?

At Kennedy the anesthetic department has started continuous caudals on these patients for us and have kept them going for a day or two, which makes it much easier for the doctor and is also easier on the patient.

Also I would like to ask if you have tried refrigeration on these patients.

DR. S. C. WERCH (Memphis): Mr. President, I can only discuss this paper from the standpoint of an internist and physiologist, not as a surgeon. However, it occurs to me that some of the points brought out not only might be emphasized but might be dealt with from the standpoint of the pathological physiology concerned.

I must say it was an excellent paper, and I enjoyed it very much.

As regards the pathological physiology, one must refer what has happened to the general condition of the patient. The patient is usually sick for other reasons as well. The occurrence of an embolus is secondary. For example, the patient may be experiencing pneumonia, fibrillation of the heart, or may be an old individual suffering from a general vascular disturbance. Such may be the background for what has happened, and the embolus as an accident is something else facing the doctor.

Whether the case is an emergency or one requiring prolonged treatment is a matter of clinical judgment. From the experience I have had with such cases, I don't think that one should deal with them only from the surgical viewpoint. One should rather watch the patient, study carefully the signs and symptoms as they develop and then treat the patient as one afflicted with a disturbance of the circulation. If it appears as though the circulation cannot be restored by conservative measures, then do those things and use those measures which are part and parcel of heroic systems; but if there is any indications the collateral circulation will care for the extremity, then the more conservative measures may be used and applied. I know of many

cases where conservatism has been the judgment and the collateral circulation, even after days, has taken care of the extremity. In other words, when the collateral circulation has proved adequate, there is no real reason to suppose that serious difficulties will arise.

One of the greatest problems associated with the treatment of these cases is the kind of hysteria connected with it, not only as regards the individuals around the patient, but even with some doctors. Above all, don't use heat. I know of several patients who have been the victims of burns because heat was applied with electric pads, hot water bags, and so on. These must not be used. Do nothing if you have no better way of treating the patient at the time.

With regards to the employment of pavex and the oscillating bed, although at one time they were in favor, I agree with the discussers that there is no reason to use them at the present time. Although the physician is dealing with a disturbance of the blood circulation, and his purpose is to get as much circulation down into the limb as quickly as possible, there is no need for him to resort to heroic measure until he is absolutely certain that the collateral circulation will not be adequate. (Applause.)

DR. L. CARL SANDERS (Memphis): Dr. Kirtley has clearly stated the chief factors concerned in the etiology, the diagnosis, and the treatment of arterial emboli. I wish to emphasize a few important details in the treatment. It has been shown that arterial spasm occurs immediately after the occlusion of an artery by an embolus. To combat this spasm, papavarine hydrochloride, grs.  $\frac{1}{2}$ , should be given intravenously. If the patient is seen early, heparin intravenously and dicumarol orally should be given at once. At the same time, procaine sympathetic block may be useful. If immediate improvement in the circulation of the affected limb is noted, the treatment may be continued under constant observation. If prompt restoration of circulation is not obtained, embolectomy is indicated. If the patient is seen late, after gangrene has developed, it is evident that no collateral circulation has been established and amputation of the effected limb is necessary.

Last week we had a patient enter the hospital who had a thrombosis of the left popliteal artery eight days previously. The limb was cold, semi-gangrenous, and the skin was sloughing from the use of a heating pad. This patient was in desperate condition, semiconscious, and failing circulation. While preparing her for amputation she was given heparin, intravenously, followed by dicumarol. There was no change in the temperature of the leg and no collateral circulation was shown to be present. An upper thigh amputation was done, but her condition is very grave because of the delay in treating the thrombosed vessel. She had diabetes mellitus, arterial sclerosis, hyperten-

sion, and auricular fibrillation at the time of examination.

It is important, therefore, to recognize arterial occlusion early and to treat the patient as an acute emergency. The time element in saving the limb or even life is measured in hours, not days. The question of continuing anticoagulants after embolectomy is not a settled one. Some observers believe that prolonged use of anticoagulants cause oozing from the operative wound and cause hematomata to form which embarrasses the circulation by their pressure. Others believe that the continued use of anticoagulants for a few days will prevent other thrombi from forming, and this advantage outweighs the dangers from hemorrhage.

Finally, it must be remembered that during the haste of emergency measures to restore circulation to the affected limb, the cause of the embolus should be sought for and treatment instituted. If the heart is fibrillating, digitalization should be done at once. If diabetes is present, insulin should be given to restore normal blood sugar. Papavarine should be continued to relieve pain and arterial spasm. Careful follow-up observation and treatment of the patient's general condition must be done to prevent as far as possible further occurrences of emboli.

DR. HARWELL WILSON (Memphis): Mr. Chairman: I am in general agreement with the principles outlined by Dr. Kirtley for the management of arterial embolism and simply wish to elaborate upon a few of the points mentioned by the essayist. The time factor is of paramount importance as stated, and in my opinion these patients should have surgical consultation as soon as possible after the embolus is diagnosed. Operation during the first six hours offers the best opportunity for a successful result whereas after twelve hours have passed the chances are poor indeed.

Passive vascular exercise or intermittent suction and pressure given with the extremity in a glass boot was mentioned as a method of treatment which was in favor some years ago. This procedure in my opinion is of very little value. Some years ago at the University of Chicago Clinics, N. W. Roome and I studied a group of patients treated by this method and reported the unfavorable results in the *Journal of the American Medical Association*. Our findings were in agreement with the findings of a similar study made at the Mayo Clinic.

I wish to emphasize the fact that heat is definitely harmful when applied to an extremity with a deficient arterial blood supply. The heat in-

creases metabolism of the tissues, and if more blood cannot enter the part due to an arterial embolus being present, then gangrene is more apt to occur. The studies of Norman Freeman and Alfred Blalock both stress this fact. If heat is to be used at all, it should be applied to the abdomen and uninvolved extremities in an attempt to produce a reflex increase in blood supply to the affected extremity. Since sympathetic block is available, I see little use for heat in treating such cases. It should also be stressed that the involved extremity should not be elevated.

As regards heparin, I prefer in using this drug to inject it into the vessel after removal of the embolus has been accomplished and to prolong the coagulation time of the blood following operation, but prefer not to give it pre-operatively.

Sympathectomy is beneficial in relieving the symptoms of a few of the well selected cases with residual arterial obliterative disease referred to by Dr. Kirtley as vascular cripples. This method is more applicable to patients who have had traumatic arterial injuries than to the average patient with an embolus.

DR. JAMES A. KIRTLEY (closing): I have used refrigeration on two patients, in which I was able to amputate the extremity without any other type of anesthetic. I have not used continuous caudal in the place of paraspinal blocks. I feel that if gangrene is threatening either before or after the removal of the embolectomy, then one should probably give that patient a test of a spinal anesthetic in the operating room; and if there is any definite indication of improvement following spinal anesthetic, then I think a lumbar sympathectomy with removal of the second and third lumbar ganglia should be done, as the effects are more beneficial than repeated paraspinal blocks, because, as we all know, paraspinal blocks are not always certain.

It is important to emphasize again that these patients should not be operated on immediately. In the first place, a great many of the conditions will clear up and subside, whether the embolus drops on further down, whether the collateral circulation is adequate or whether the existing vasospasm subsides. I think probably a good many of them will occur with a patient already in the hospital, and observation for at least four hours is certainly justifiable with the use of anti-spasmodics and other measures which have been mentioned.

It certainly is important that the extremity not be elevated. As a matter of fact, one should go to the other extreme and actually lower the head of the bed or depress the extremity about ten degrees. (Applause.)



## SCHOOL HEALTH SERVICE RECOMMENDATIONS

DEAN F. SMILEY,\* M.D., and F. V. HEIN,\* Ph.D.

The Conference on the Cooperation of the Physician in the School Health and Physical Education Program held in Highland Park, Illinois, October 16-18, 1947, resulted in the following recommendations of interest to all physicians concerned with school health work:

1. In order that a school health program may be kept continuously in proper relationship with public health services, welfare services, medical and dental services, and all the health resources of the community *it is essential that some form of community health council*, bringing together representatives of all local groups with definite health responsibilities, *be formed*.

2. Wherever there is a school, *the local community should budget for a school health program*, in the department of education, in the department of health, or in both. In that budget *there should be adequate provision for the salary of a well-qualified medical adviser serving the school full time or part time as the need requires*.

3. Every school system should have an *advisory school health council*, every school a *health committee*, every local medical society a *school health committee*. In some instances such committees or council can best be developed within the framework of an already existing plan of organization.

4. *The physician's time in the school can be best utilized—*

- (a) *If he is employed as school medical adviser rather than school medical inspector.*
- (b) *If the routine medical examinations, whether done by the family physician or the school physician, are spaced at three-year intervals during the school life of the child.*
- (c) *If pupils in need of special examination and advice are carefully selected by the teacher and made the subject of a physician-teacher conference.*
- (d) *If considerable portions of the rou-*

*tine examinations are delegated to teachers and nurses, reserving for the physician only those portions which he alone is equipped to do.*

5. Since immunization is necessary for protection particularly in the infancy and preschool period, *the schools should definitely discourage the practice of postponing inoculation to the period of school entrance.*

6. It is essential that teachers be aware of the physical handicaps of their pupils. *Medical examination findings of her pupils should, therefore, be interpreted to the teacher in the physician-teacher conference, making certain that the teacher thoroughly appreciates the importance of safeguarding all matters of a confidential nature.*

7. *Instruction as to the need and value of voluntary planning for medical, dental, and hospital expenses through prepaid programs should be stressed in the high school curriculum.*

8. *Cumulative health records should be a part of the child's total school record throughout his school life.*

9. In determining the content of the *physical education program the physical education teacher, the physician, and the pupils should all play an appropriate part.*

10. Physicians and physical education teachers in the various communities should arrange *joint meetings for the discussion of such problems as the individual-adapted physical education program and the classification of pupils for physical education activities.*

11. In those communities where graded types of physical education activities adapted to the varying needs of pupils are available in the school, *permanent and blanket excuses from physical education should rarely if ever be given.*

12. *All school health service personnel should have experience in field work as a part of their pre-service training.*

13. *Medical schools should give additional training to medical students in regard to: (a) the relationship of the physician to the school and the community; (b) the physi-*

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*ology of exercise* and the function of physical education in the life of the child; (c) the *pediatric examination* as the *model* for school examinations; (d) how the *school physician* may *function* as a *medical adviser* rather than a mere medical inspector.

14. *Schools of public health* should give increased *emphasis* in their training of health educators, physicians, and nurses to: (a) *school health*; (b) the basic philosophy of *general education*; (c) *school organization* and administration.

15. In every community there should be planning and in-service training conferences, institutes, and workshops involving teachers, physicians, nurses, dentists, dental hygienists, and others interested in the community health program to work out problems related to that community.

16. There is *urgent need* for *research* into many phases of school health service and particularly need for *evaluation* of procedures not only in terms of defects found and remedied, but also in terms of educational outcomes in the child, increased understanding of the child by the teacher, increased provision of special programs of education for the exceptional child.

17. A *joint committee* composed of representatives named by the American Med-

ical Association and the American Association for Health, Physical Education, and Recreation (perhaps as a subcommittee of the Joint Committee on Health Problems in Education of the N. E. A. and A. M. A.) *should be appointed to draw up recommendations* regarding: (a) the administration of the *individual adapted program* of physical education; (b) the *medical examination* and guidance of athletes.

18. *Authoritative committees* already functioning *should be asked* or new committees should be formed *to study*: (a) posture; (b) the *effects* of vigorous physical activities; (d) *energy expenditure* in the various types of physical activities.

19. *State medical societies* and associations should be *urged* to *plan* jointly with their health department, education department, and education association for the development of *conferences at the state level* which are comparable to this conference at the national level. It is suggested that the needs of rural schools should receive special consideration.

[NOTE: The full report of the Conference is in the process of printing and will be available shortly at a nominal charge from the Order Department of the Association.]

## THE MANAGEMENT OF RECTAL PROLAPSE\*

DAUGH W. SMITH, M.D., F.A.C.S., Nashville

Prolapse of the rectum and procidentia recti are interchangeable terms, used to describe pathological conditions of the rectum, which convey variable meanings to different writers. This is undoubtedly due to the fact that many varieties and degrees of rectal prolapse may exist. These may vary from eversion of a small portion of mucous membrane to complete eversion of the entire rectum. The term prolapse to some means a downward displacement of one or more coats of the rectum, which may or may not be visible. The same term is used by others to denote an abnormal descent of the mucosal layer only. A downward descent of all the coats of the rectum or colon, whether the conditions be visible or non-visible, is classified by many as procidentia. The condition has been described by many authors as of first, second, and third degree, or as partial and complete. The term "first degree prolapse" or "partial prolapse" has been used to denote a condition in which only the mucous membrane protrudes. "Second degree prolapse" and "complete prolapse" are terms used to imply a prolapse of all the coats of the rectal wall. The term "third degree prolapse" has been applied to an intussusception of the colon into the rectum, without protrusion at the anus.

*Etiology*—The true cause of rectal prolapse is not clear. The rectum is held in its normal position by many supporting structures. The lower segment is supported by the perineal fascia, external sphincter muscles, fibrous attachments to the coccyx and the prostate or vaginal walls, the levator ani muscles, and pelvic fascia; the midportion, by the loose fibrous tissues; and the proximal portion, by the peritoneal folds. These supports must undergo some weakening or destruction in order for the rectum to be dislodged.

The factors responsible for rectal prolapse may be considered under the follow-

ing headings: hereditary, physiological, pathological, and mechanical. It is generally agreed that some pre-existing anatomic defect exists. The existence of extraordinarily long mesosigmoid and abnormally deep cul-de-sac of Douglas, or rectovesical pouch, as the case may be, are considered to be important contributing factors.

The physiological causes may be listed as (1) age, (2) sex, (3) crying of the baby, (4) the force of defecation, (5) peristaltic activity of the intestine, and last, the well-nigh vertical position of the lower segment of the rectum.

The pathological factors which contribute to effect a prolapse, or procidentia, are numerous. The following are a few of the more common ones encountered: diarrhea and tenesmus, wasting diseases, vomiting, coughing, any disease or crushing injury which may produce paralysis of the sphincter or levator ani muscles, straining at stool, obstructive disorders of the urinary tract, and constipation.

The mechanical factors within the rectum are hemorrhoids, polyps, hypertrophied papillae, hard fecal masses, neoplasms, and drastic purgatives. Likewise, childbirth (parturition), procidentia of the female uterus, abdominal tumors, abdominal ascites, manual dilatation of the sphincters at the time of operations, and the unnatural upright position at stool, constitute another group of mechanical factors.

*Age incidence*—The condition is most often seen among individuals at the two extremes of life, infancy and old age. It is seen more frequently between the ages of 1 to 5 years, with equal frequency in the two sexes. However, rectal prolapse in the adult is more frequent in women beyond the fourth decade. The anatomic arrangement of the immature pelvis in the child is thought to be the predisposing factor in its production; for example, the absence of the sacral curve, the high position of the urinary bladder, and the uterus in the female child.

Diarrhea has been given as the most fre-

\*Read before the Middle Tennessee Medical Association, Woodbury, Nov. 21, 1946.



quent single exciting cause of prolapse in children. Fatty tissue is one of the chief supports of the rectum in children. In wasting diseases, or malnutrition, this fatty tissue is absorbed. Chronic cough, vomiting or diarrhea could easily produce a prolapse under such conditions. (Figure 1.)

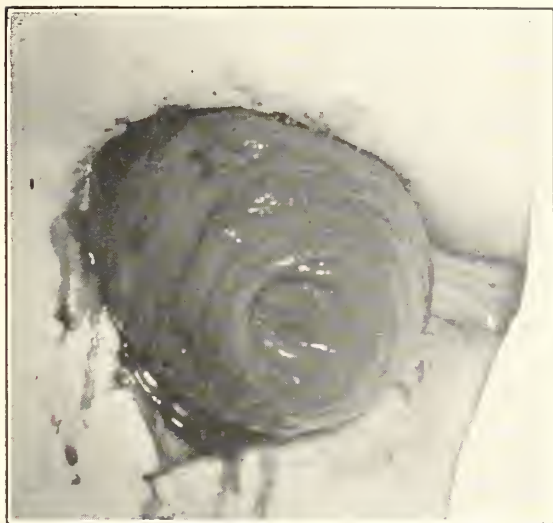


Fig. 1. Complete prolapse of the rectum.

The diagnosis of visible rectal prolapse or procidentia is obvious. The difficulties of diagnosis arise in recognizing both the presence and degree of the prolapse which is concealed, and in determining whether the mucous membrane alone is involved, or whether all the coats of the bowel participate in the prolapse. In most cases one will obtain a history of sudden protrusion at the stool which replaces itself. There are few or no symptoms complained of in the early cases. As the condition is allowed to exist, inflammatory changes occur with associated symptoms, such as bleeding and excess mucous with a slower return of the mass. The patient by this time may find it necessary to recline or use manual force to reduce the protruding mass. Many of these patients are constipated and resort to purgative and enemas which aggravate the prolapse. A patient with a history of prolapse should be asked to strain and demonstrate the deformity. It may be necessary to put him in a squatting position. In the case of an apparent prolapse, the

differentiation must be made between true prolapse, protruding hemorrhoids, polyps, or papillae.

A point of differentiation between prolapse and the other conditions mentioned is that in the case of prolapse, folds of mucosa will radiate from the center to the periphery. In the case of prolapse hemorrhoids, polyps, and papillae, there will be no folds. But it must be borne in mind that both conditions may be present in the same person. A point of value in determining whether the mucosa alone is involved, or whether all the coats are involved, is the following: An oval shaped mass with circular folds of mucosa indicates that all the coats of the bowel are involved. On digital examination, marked relaxation of the sphincter, and frequently an associated leakage is noted.

The non-visible, or internal type of prolapse, is more difficult to diagnose. The patient may complain of fullness in the rectum, hip and back pain, and incomplete defecation. On digital examination one will feel a protrusion or mass which can be followed upward, with a sensation that it involves the entire rectal wall. Proctoscopic examination only can be relied upon for a correct diagnosis. Such examination is more satisfactory with the patient in a Sims position, or standing. On withdrawal of the proctoscope, the mucosa will appear to peel off the sides of the rectal wall.

*Treatment*—Any plan of treatment for rectal prolapse would be incomplete without including the regimen for the relief of the infants who are suffering from this condition. Rectal prolapse is not an infrequent entity among children, especially under five years of age; on the contrary, it is fairly common.

For many years it has been my practice to use a sclerosing agent to refix the prolapsing rectal wall. The sub-acute inflammatory reaction, in the space between the mucous membrane and the muscular coats of the wall of the bowel, which follows the use of the chemical, results in the formation of fibrous tissue which serves to re-anchor the prolapsed layers.

The prolapse, when first seen, may be gangrenous or strangulated. In such a case immediate surgery is indicated. A gangrenous mass should never be returned to its normal position, but it should be removed while it is prolapsed.

*Technic*—The treatment of rectal prolapse by injection may be carried out in the office or hospital. The use of an anesthetic is not required. A tubular anoscope should be employed to expose the mucous membrane. A long, 22 gauge needle is employed to make the injection. I prefer to use 1% or 2% quinine and urea hydrochloride; however, some authors recommend a 5% solution.

The prolapse must be reduced if present at the time of the treatment. I prefer to make most of the injections through the posterior and lateral walls, however, some should be made in the anterior wall. The site of the injection in the mucosa should be cleansed with some mild antiseptic. The needle is thrust into the space between the mucous membrane and the muscular coats.

Two (2) or three (3) cc. of the solution may be injected into two or three different places, then about one week is allowed to elapse before giving the next treatment.

The results which I have obtained have been most gratifying, both to myself and to the mothers.

The child should be closely followed by the pediatrician or family doctor, with the view of correcting contributing factors.

If rectal prolapse has been allowed to continue into adulthood, or should it occur in adult life, temporizing measures should not be advised unless constitutional diseases, or the patient himself makes more conservative measures the choice of treatment.

Many operative procedures have been employed in an effort to correct rectal prolapse. I shall mention a few of them: (1) The type which causes narrowing of the anus and rectum; (2) by resection of the prolapsed bowel; (3) procedure by which the prolapsed bowel is suspended or fixed; (4) by restoration of the pelvic floor, and (5) the procedure by which the pelvic cul-de-sac is obliterated. The primary pur-

pose of the above-mentioned operative procedures is to fix the rectum and lower sigmoid so as to prevent a sliding down of these segments along the hollow of the sacrum to occupy their original position, *i.e.*, the position assumed after the development of a rectal prolapse.

Most of the intra-abdominal operative techniques employed to fix the lower sigmoid and rectum by sigmoidopexy are followed by recurrences, because (1) traction on the sigmoid, without first dividing the peritoneum along the line of its reflection at the sides of the lower sigmoid, will not make the rectum taut; (2) if the rectum could be made taut by traction on the sigmoid, without division of the pelvic peritoneum, recurrence will probably follow because the sigmoid cannot be permanently fixed. The adhesions which bind the sigmoid to the pelvic and abdominal walls, produced by the operative procedure of sigmoidopexy, will eventually loosen from the constant downward pull on the sigmoid. To secure a more adequate fixation of the rectum than exists in cases of rectal prolapse, it is necessary to stimulate the formation of a more rigid fibrous support. Following the operative technique yet to be described, the loose aerolar tissue which serves as a support for the midportion of the rectum, is replaced by scar tissue.

*Operative Procedure*—The patient should be hospitalized for two or three days pre-operatively, during which time the colon is emptied by the administration of saline laxatives, and colonic irrigations. The patient is permitted a low residue diet.

Inhalation anesthesia is employed. A left paramedian incision is made 2.5 cm. from the midline, and extending from the symphysis pubis to a level of the umbilicus, or just above the level of the umbilicus if the patient is obese. The rectus muscle is retracted laterally. With the patient in a Trendelenberg position, a Balfour, self-retaining retractor is employed. The upper abdomen and small intestine are separated from the pelvic cavity by the use of moist packs. If the patient is a female, the uterus (if it has not been removed) is pulled up into the lower end of the wound



by employing a suture through the top of the uterus.

By traction on the sigmoid, it is made taut. The latter is usually more mobile and longer than normally found. The peritoneum is incised on either side of the mesentery of the bowel, but not anteriorly. The peritoneum should be freed laterally sufficiently to be able to identify the ureters. It should not be necessary to ligate any of the branches of the superior hemorrhoidal artery if one exercises care.

The hand is placed behind the rectum in the hollow of the sacrum, and by blunt dissection with the fingers, the rectum is freed. The dissection is continued downward and forward until one can feel the

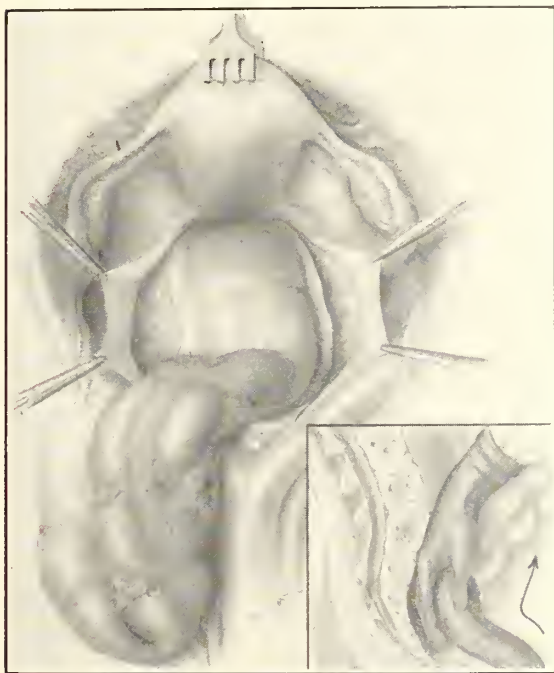


Fig. 2. Reflection of the lateral parietal peritoneum. Insert shows the rectum being freed from the hollow of the sacrum.

tip of the coccyx (Figure II). This enables one to pull the prolapsed rectum up from the hollow of the sacrum as one is able to do when resecting the rectum. While an assistant maintains gentle traction on the rectum, the potential cavity, and the raw surface posterior to the lower sigmoid which has been created, is now covered by suturing the two peritoneal flaps together, posterior to the rectum, thereby obliterat-



Fig. 3. The prolapsed bowel elevated and the reflected lateral parietal peritoneum approximated.

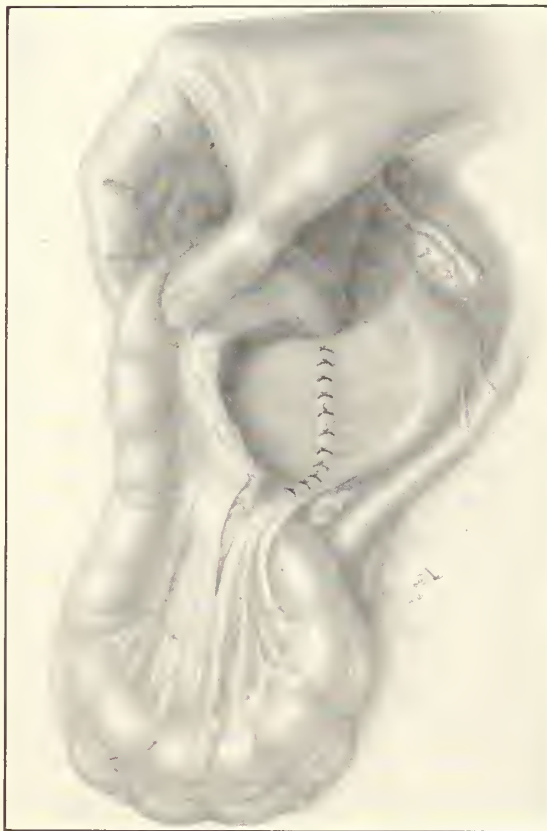


Fig. 4. The raw surfaces of the bowel are peritonized. The elevated bowel fixed to the pelvic walls and lateral abdominal wall.



ing the cul-de-sac of Douglas, or retrovesical space, whichever the case may be (Figure III). It is important that the rectum be held in this position. This may be accomplished in several ways, depending on its length and mobility, also on whether the patient is male or female (Figure IV). The mesentery of the two loops may be sutured together and further fixed by attaching the bowel to the uterus. In one of my cases, I sutured the bowel to the brim of the pelvis and abdominal wall. It may be sutured to the anterior abdominal wall. One must exercise care in placing sutures in the bowel wall for fear of producing a leakage. Also one must not leave an opening through which a portion of the small bowel might herniate.

*Post-Operative Care* — A rectal tube should be passed through the anus and left in for three or four days to prevent gas-

eous distention. A non-residue diet is permitted and the bowels are kept constipated. After four days bowel movement is effected by the use of oil enemata and mineral oil by mouth. The diet is gradually increased and the stools are kept soft by the administration of mineral oil. The patient is kept in bed for two weeks.

In the after care the patient should not be permitted to engage in any strenuous activities. He should be instructed in how to prevent constipation and informed of the ill effects of straining at stool.

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## OBSERVATIONS IN ELECTRIC SHOCK THERAPY\*

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The purpose of this paper is to give a brief account of the technique and character of electric shock therapy as employed at the Veterans Administration Hospital, Murfreesboro, Tennessee. Contra-indications will be mentioned and consideration will be given to some possible complications. In addition, an analysis will be made of the results obtained, particularly in relation to the duration of the psychoses. Three cases of patients treated with this type of therapy will be described.

### HISTORY

The use of electricity in the treatment of mental disorders is not a recent innovation, for a review of the literature indicates that its use had been described as far back as the middle of the eighteenth century. Huff<sup>1</sup> states, "No nervous affection whatever should be regarded as incurable until electricity has in some form been tried and failed."

Cerletti of Rome had begun the study of the production of convulsions in animals by electricity some time before the introduction of convulsive therapy in connection with research in epilepsy. When Meduna discovered the therapeutic effect of metrazol-induced convulsions in mental illness, Cerletti saw the possibility of applying his experience with electricity to man in order to induce convulsions of an epileptoid nature. The first treatment was given to a schizophrenic patient in Rome in April, 1938. Bini improved the apparatus and evolved a machine similar to those used in this country today. Together, in May of the same year, they published the first report on electro-shock in the treatment of mental illnesses.

The treatment was almost immediately (late in 1939) introduced in the United States. Human patients were first treated in May, 1940. Dr. Victor E. Gonda, Dr. L. Kalinowski, and Dr. S. Eugene Barrera,

among the first workers in this country, have all reported favorable results.

Electric shock therapy was instituted at the Veterans Administration Hospital, Murfreesboro, Tennessee, July 24, 1944.

### ORGANIZATION

Groups of nurses and attendants are familiarized with this type of treatment by giving them lectures, demonstrations and quizzes from time to time.

The personnel actively engaged in the treatment consists of one physician who supervises and administers the treatment, one nurse who prepares the patient and another who supervises the recovery room, three attendants who assist in the shock room and two others in the recovery room.

### APPARATUS USED

There are several different types of apparatus available commercially. The machine used at this hospital is the "Lektra," which is a modification of the one used by Cerletti and Bini. An alternating current is used, which is the ordinary 110 volts (60 cycles) from the house circuit. The current is put through a variable voltage transformer and is brought to the desired voltage. The time element is governed by a timer graduated in intervals from .05 to .5 of a second. However, the normal time is considered to be .1 second.

Two circuits are incorporated in the machine, one for estimating the patient's resistance, and the other for delivering a pre-determined shock dose.

The resistance is measured in all cases and may vary between 200 to 600 ohms. Some investigators<sup>2</sup> consider this step superfluous, yet it is felt that this determination helps in ascertaining whether or not there is proper application of the electrodes. A high resistance suggests a poor contact; extremely low resistance, a short circuit. The resistance meter, in accordance with the manufacturer's instructions<sup>3</sup>, is not set at zero but at another value which is equal to the internal resistance of the machine.

Electrodes which are circular and about two inches in diameter are connected to

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the stimulating unit of the machine by means of a line cord.

On the instrument panel of the machine, the following indicators are found: an ohmmeter for measuring the patient's resistance, a milliamperemeter to determine the milliamperes directed at the patient, a potentiometer which is used to increase or decrease the voltage, and a voltmeter.

#### TECHNIQUE

The initial voltage used with the machine is 135 volts. This dosage has been established by this writer as the lowest voltage with which a major convulsion can be obtained. Other workers<sup>1</sup> using this apparatus report the need of an even greater voltage. The voltage is increased ten volts if no reaction is obtained; if the reaction is *petit mal* in character, the increase is five volts. A useful procedure is to apply a second stimulus if the first did not lead to an immediate major convulsion<sup>2</sup>. Doubling of shock, as this procedure is referred to, has not in any way contributed toward accidents, as noted by others<sup>3</sup>.

It has been stated that a major convulsion could always be produced, once the convulsive threshold had been determined. This contention did not appear to hold true in our experience, for it has been possible to get a major reaction with the same voltage and time for a number of treatments; then, again, it appears that the patient develops a degree of tolerance for the treatment and the dose has to be progressively increased to obtain a convulsion. Some workers<sup>4</sup> believe this convulsive threshold may vary according to humidity and atmospheric pressure. Here, too, our observations, carefully recorded, fail to corroborate this finding. In view of the diversity of opinions as to the possible nerve cell injury caused by this type of treatment, the voltage is kept at a minimum<sup>5</sup>.

The patient is treated three times a week (Tuesday, Thursday and Saturday).

What constitutes a course of treatment is entirely dependent upon the individual case; twenty shocks are usually given the praecox cases and fewer treatments are given other cases. If after a course has been completed, further treatments are in-

dicated, a three-week interval is recommended. The second course usually consists of ten treatments. Care is exercised to avoid overtreatment or undertreatment.

#### PREPARATION OF THE PATIENT

A patient recommended for electric shock treatment is presented to the hospital staff by his ward surgeon, who gives a short resume of the case. A unanimous agreement by the staff is required before a case is accepted for treatment. The next step is to obtain permission for the treatment from the nearest relative, and after his consent has been obtained, the patient is ready for a "work-up." Each patient is studied carefully, both physically and neurologically. In addition, laboratory examinations, including X-ray of the chest and spine and electro-cardiograms, are made routinely to determine the exact status of the heart, lungs and spine.

The contra-indications to this type of therapy are uppermost in the minds of those discussing a case. Some of these contra-indications are: acute infectious or toxic conditions, active pulmonary tuberculosis, disease of the heart, diseases of the kidneys, atrophy of the bones, marked curvature of the spine, malignancy, thrombophlebitis, arteriosclerosis and epileptic predisposition. In the Veterans Administration a patient past 56 years of age is not given this type of treatment.

After the "work-up" is completed, the patient is brought before the shock board, where the case is reviewed and finally passed upon.

#### PROCEDURE IN THE TREATMENT ROOM

Assuming that we have fully acquainted ourselves with the type of apparatus used and that the patient has been prepared and passed upon, he is ready for the actual treatment.

The patient comes to the treatment room dressed in loose pajamas. Breakfast has been withheld and he has not been given any sedatives for a period of twelve hours before the treatment. Care is taken to remove dentures and any foreign substances which he may have in his mouth (chewing gum, tobacco, etc.). Metallic articles which may be about his body and



spectacles, if worn, are removed. The elements of fear and anxiety are minimized to some extent by giving the treatment in a room somewhat removed from the other patients who are awaiting treatment.

The patient lies supine on an insulated, hard-mattressed table. Two sandbags (size 15x6 inches, one weighing about ten pounds and the other weighing about eight pounds) are placed beneath the upper dorsal spine so that the edges of the upper bag (toward the shoulders) are in line with the axillary fold and the cervico-dorsal spine is in hyper-extension; the lower bag (toward the feet) is a thinner one and slightly overlaps between the upper bag and the back. The patient's head rests on a sheet folded to approximately 7 to 9 inches. Electrode paste is applied on both sides of the patient's head in the fronto-temporal region and gently massaged. A rubber gag is placed in the patient's mouth and he is instructed to bite firmly.

The attendant on the right side of the patient leans over and with his right arm holds the patient's hips down; with his left hand he holds the patient's right arm. The attendant on the left side uses his right arm to hold the patient's shoulders down and with his left hand holds the patient's left arm. The attendant at the foot of the table attempts to prevent the patient's feet from flailing about. Considerable motion is allowed by those controlling the patient. Gauze-covered electrodes, previously immersed in a saturated salt solution, are applied to the fronto-temporal areas and kept in place by means of a self-adjustable rubber band.

The resistance is measured and the voltmeter is set for the desired voltage. The physician administering the treatment firmly supports the patient's lower jaw with his left hand, and with his right hand pulls the shock lever.

The patient may respond with a sharp tonic jerk and is rendered unconscious at the same time. The desired reaction is a tonic spasm which may be preceded by a brief, dull or loud cry. In this tonic phase the body becomes rigid, the arms and legs are extended. There is a marked flushing

of the face, which is followed by intense pallor, then cyanosis. Respiration is arrested and tachycardia takes place. The tonic phase may last thirty-five to fifty-five seconds. Suddenly, the clonic phase begins, with more or less violent movements for one to five minutes. The jerking of the head increases, the limbs alternately contract and relax and thrash about vigorously. There may be frothing at the mouth, perhaps blood-tinged; the eyeballs may roll backward; the breathing is noisy or stertorous and the pulse rapid and small. (Perspiration may cover the body.) Occasionally conjunctival hemorrhages appear. Incontinence of urine or, more rarely, evacuation of the bowels may occur.

A phase of muscular relaxation follows with stertorous respiration. The state of unconsciousness passes slowly and the patient begins to waken, relaying the jaws and rotating the eyes. He may now respond slowly to spoken words. In two to five minutes he may attempt to talk, but he is muddled and his speech is incoherent. In about ten minutes the patient has recovered. However, he is sleepy and, if left undisturbed, will sleep soundly for an hour or more.

During the clonic phase the attendants permit but passively resist the patient's thrashing movements in order to prevent fractures or dislocations. If the patient was incontinent, he is cleaned and pajamas changed before he awakens to avoid embarrassing him.

Following the onset of stertorous breathing, the sandbags are removed and the folded sheet under his head is replaced by a pillow. He is then wheeled into the recovery room, put to bed and permitted to remain there until he has completely recovered. The attendants are on duty at all times and assist the patient in getting out of bed. Later in the morning the patient, accompanied by an attendant, is returned to his ward.

The patient loses all memory of the treatment from the moment the lever is pulled until complete consciousness is regained. As yet we have not had a patient complain of pain caused by the treatment.

### COMPLICATIONS

Fortunately, we have had but one complication which, according to our X-ray report, was "an apparent recent separation 4 mms. wide, suggestive of a recent fracture through the mid-portion of the left transverse process lumbar-three; alignment is good."

The possibility of accidents must ever be kept in mind. The literature reports rib fractures, crush fractures of a vertebral body,<sup>10</sup> fractures of long bones, mandibular dislocations,<sup>10, 11</sup> and cardiac and respiratory failures.<sup>12</sup>

Our success in having avoided complications is attributed to the care given in selecting, preparing and treating the patient. Each case is carefully selected and "worked up." Questionable findings are checked and rechecked. Hyperextension is maintained by proper and careful placing of the sandbags.<sup>14</sup> Mandibular dislocations are avoided by giving firm support to the lower jaw during the treatment.

Upon completion of a course of treatments, X-ray and E.K.G. studies were made only on cases where such a procedure was indicated in order to rule out a possible trauma. However, at the suggestion of Dr. Daniel Blain, Acting Director, Neuropsychiatric Service, a group of unselected patients was submitted to X-ray and E.K.G. studies, and no evidence of pathology was found.

Time is not a factor. Each patient is carefully treated before, during and after the treatment.

Our "team" has the proper spirit; they are alert, willing and, above all, patient and sympathetic with those who come for this type of treatment.

### RESULTS

This report covers a group of 192 cases treated at the Veterans Administration Hospital, Murfreesboro, Tennessee, by electric shock therapy over a period of seventeen months (July 24, 1944, to December 24, 1945).

The technique followed is essentially that used by Kalinowski and described in detail earlier in this paper. No curare or sedatives were used. The selection of patients

was based upon consideration of age limitations and the elimination of those patients with definite physical or mental contraindications. The patients were all male veterans of World War I and World War II, with ages varying between 19 and 56 years.

The total number of shocks given in this group was 3,488, but the number of grand mal reactions was 2,561. This gave an average of 13.3 grand mals per patient treated.

The results obtained in this group are classified according to Alexander.<sup>15</sup> "Recovered" are those patients who have been discharged or have been on trial visit for a period of thirty days or longer following the treatment. "Improved" includes those who have shown sufficient improvement to be granted partial or full ground privileges or have been removed from the infirmary or acute wards. "Slight improvement" indicates some favorable change in the mental picture.

As indicated by Table I, 14 cases were of the affective type of psychoses, 10 were psychoses with mental deficiency, and 168 cases had been diagnosed as dementia praecox in the various types.

TABLE I

Type of Case	Number of Cases	Recovered	Improved	Slight Improvement	No Improvement
Dementia Praecox—					
Catatonic	66	29	13	11	13
Paranoid	37	8	9	5	15
Mixed	22	7	1	1	13
Simple	11	4	1	2	4
Hebephrenic	27	9	2	2	14
Unclassified	5	2	0	1	2
Psychosis with Mental Deficiency	10	5	0	3	2
Involuntional Melancholia	5	2	1	1	1
Manic Depressive Depressed	5	2	1	1	1
Mixed	2	0	0	0	2
Manic	2	1	0	0	1

Of the total number of cases treated, 69 or 35.9% recovered, 28 or 14.6% improved, 27 or 14.1% showed slight improvement, and 68 or 35.4% did not improve. The total number of cases who showed some degree of improvement was 124 or 64.5%.

It is evident from Table I that our best results were obtained in the catatonic type of dementia praecox, as was expected. Of 66 cases, 29 or 43.9% recovered, 13 or

19.6% improved, 11 or 16.6% showed slight improvement.

In the paranoid group of 37 patients, 8 or 21.6% recovered, 9 or 24.3% improved, 5 or 13.5% showed slight improvement, and 15 or 40.5% showed no improvement. The total number showing some degree of improvement was 22 or 59.4%.

Considering the group of 27 patients in the hebephrenic group, 9 or 33.3% recovered, 2 or 7.4% improved, 2 or 7.4% showed slight improvement.

The mixed group consisted of 22 patients, of whom 7 or 31.8% recovered, 1 improved, and 1 slightly improved, 9 or 40.9% showed some degree of improvement.

In the small group of 11 cases in the simple group, 4 or 36.3% recovered, 1 improved, and 2 showed slight improvement, 7 or 63.6% showed some degree of improvement.

The unclassified group had 2 out of 5 recoveries, and 1 showed slight improvement.

Taking the praecox group as a whole, 59 or 35.2% recovered, 26 or 19% improved, and 22 or 13% slightly improved. The total number showing some degree of improvement was 107 or 63.6%.

Fourteen cases of the affective disorders resulted in 5 or 35.7% cases recovered, 2 or 14.2% improved, and 2 slight improvement. The total number showing some improvement was 9 or 64.3%.

Many comments are made in the literature regarding the prognostic importance of the previous duration of a psychosis in relation to the administration of electric

convulsive therapy. In our study, the duration of the psychosis was measured from the time the veteran was first hospitalized for the present psychosis until the completion of the electric shock course.

A review of Table II indicates that no patients in the praecox group who were treated with electro-shock recovered when the duration of the psychosis was of more than two years' standing. On the other hand, 87.8% improved when treated within six months after onset of psychosis.

Experience has borne out the fact that if treatment is instituted within the first few months after the onset of the illness, the patient will improve or even recover; however, a small minority of those treated after two years will show some degree of improvement.

In affective psychosis, the value of convulsive therapy is well established. Even in patients who would recover without this therapy, the course of psychosis is cut short and thus the dangers of suicide, the need of prolonged nursing care and the period of hospitalization are reduced.

The following three cases are presented to illustrate the value of electric shock therapy in the various types of schizophrenias:

#### CASE No. 1

H. F. H., age 52, admitted October 6, 1944. Diagnosed: Schizophrenia, catatonic type. The records indicate that this patient was a major in the United States Army and had spent more than twenty years in the service. The onset of his psychosis occurred about seven months prior to his hospital admission. His general physical condition was negative except for underweight due to feeding problems. Neurological examination was negative. At the time of admission he was supported on either side by an enlisted man. He walked slowly with a dragging gait and showed all evidence of being confused. He was absolutely mute. In establishing a diagnosis, consideration was given to the possibility of this being a case of involutional melancholia, for seldom do we have a case of schizophrenia in a man of his age; but with the symptoms presented, there was no his-

### RESULTS IN 168 CASES OF DEMENTIA PRAECOX

TABLE II

Duration of Psychosis	Number of Cases	Recovered	Improved	Slightly Improved	No Im- provement
Less than 6 months	33	25 (75.7%)	1 (3.0%)	3 (9.1%)	4 (12.1%)
6 to 11 months	43	21 (48.8%)	9 (20.9%)	4 (9.3%)	9 (20.9%)
12 to 23 months	52	13 (25.0%)	7 (13.4%)	9 (17.3%)	23 (44.2%)
Over 24 months	40	0	9 (22.5%)	6 (15.0%)	25 (62.5%)
Total	168	59 (35.1%)	26 (15.4%)	22 (13.1%)	61 (36.3%)



tory of, nor evidence of, depression. Thus far we were unable to find any physical disability with which a mental disability of this type might be associated. We continued the army diagnosis: Schizophrenia, catatonic type. The patient was given a course of treatment with various glandular substances without results. A course of electric shock treatments was started on December 16, 1944. After his fifteenth treatment he started talking to the therapist. He had been tube-fed since his admission, but now he was eating regularly. The patient's devoted wife was overjoyed when he started to talk to her. She had been visiting him daily since his admission and had not heard him talk. This patient gained about twenty-five pounds, was granted ground privileges, and later a trial visit. He was finally discharged.

#### CASE No. 2

L. W., colored, age 22, admitted September 8, 1944. Diagnosed: Schizophrenia, hebephrenic type. This patient was a high school graduate. The onset of his psychosis occurred seventeen months prior to his admission to this hospital. He was described as being seclusive, confused and as having destructive tendencies. He would sit with his head lowered, with a frown or at times a silly smile on his face. On October 7, 1944, he was started on a course of shock therapy, and upon its completion was granted a trial visit. He was discharged on September 22, 1945.

#### CASE No. 3

S. G., age 27, admitted November 21, 1944. In April, 1944, during combat in Italy he became tense, anxious and depressed. Later he became apprehensive, seclusive and confused. He had visions of God and heard his voice. Tube-feedings were necessary, and at time sheet-restraint was resorted to. The diagnosis was: Schizophrenia, mixed. Electric shock therapy was started on April 5, 1945. Soon he was granted partial privileges and made a trial visit on June 28, 1945.

#### COMMENTS

It is this writer's sincere hope that more time will be devoted to psychotherapy in

conjunction with electric shock therapy. Sadler<sup>17</sup> writes, "Some of those who had the benefit of thoroughgoing psychotherapeutic measures seemed to maintain all the gains secured by the shock therapy and even to improve upon them."

1. A report is made of the electric shock treatment as conducted at this hospital over a period of seventeen months.

2. The preparation of the patient is emphasized, particularly in reference to the selection of the case and the routine work-up.

3. The procedure in the treatment room is discussed and the duties of each member of the "team" listed.

4. A detailed outline of the technique used in the treatment of patients at this hospital is reviewed, with particular reference to the Lektra type of apparatus.

5. Procedures used to avoid complications are enumerated.

6. The results obtained in a group of 192 cases are listed according to the degree of improvement and also based on the duration of the psychosis.

7. Reports of three (3) cases are given in detail.

8. It is recommended that more time be devoted to psychotherapy along with the course of shock therapy.

#### CONCLUSIONS

The treatment of patients at this hospital by means of electric shock has yielded very satisfactory results. Improvement in the general mental condition of the patients treated has been noted in all schizophrenic types, particularly those of the catatonic group.

Best results are obtained amongst those patients who are started on their treatment during the first six months after the onset of the illness; however, a small minority of those treated after two years show some degree of improvement.

It is fully realized that the period of observation of those treated has been very short, and relapses may occur. We are cognizant of the fact that other forms of therapy, such as psychotherapy,<sup>10</sup> occupational therapy and recreational therapy are essential to this treatment.

Electric shock therapy has proven its benefits to beneficiaries of the Veterans Administration. The patients are appreciative of the results obtained. Relatives are grateful for the efforts expended in restoring the mental health of those near and dear to them. Financially, it represents a great saving to the Administration by shortening the period of hospitalization.

The good results obtained from the treatment of this group of veterans over a short period of time is encouraging. Its continuance is justified medically and socially.

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## RESUSCITATION OF THE ASPHYXIATED NEWBORN INFANT\*

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The common complications which cause death must be provided for in the equipment of the physician who accepts a responsibility of delivering babies. Just as one should be prepared to combat postpartum hemorrhage in the mother, one must also be prepared to treat asphyxia in the newborn. Any baby born alive that does not breathe promptly at birth or within a few minutes following the usual handling and mouth aspiration should be considered asphyxiated. About two out of one hundred babies will not respire promptly at birth, and one-half of these will never breathe because of permanent injury. The other half will live or die according to the measure of resuscitation used by the physician.<sup>1</sup> When birth trauma and improper use of drugs and anesthetics are added, the percentage is higher.

This discussion is presented to emphasize a tried and true method of resuscitating the asphyxiated infant, that of intratracheal intubation, and mouth-catheter positive pressure artificial respiration. This method was advocated long ago by Smellie and Scheel<sup>2</sup> in 1780, and more ardently taught by the late DeLee, but with the recent introduction of respiratory stimulating drugs and the invention of mechanical respirators, is being used less and less. The method requires no special apparatus other than a tracheal catheter, and with a little practice—preferably on a stillborn infant—any doctor should become proficient in its use.

The initial respiration of the newborn infant should occur immediately and spontaneously. If it is delayed over two minutes certain irreparable damages to the brain may occur, even if it breathes and acts normally, which may not be manifest until later life.<sup>3</sup>

The function of respiration is under control of the respiratory center in the me-

dulla. This center is activated among other things by the carbon dioxide content of the blood. When the carbon dioxide concentration reaches stimulating levels, respiratory movements result which cause oxygen saturation of the blood and a decrease in the blood carbon dioxide level. In utero the fetus is in a balanced state of oxygenation received from the placental circulation. At birth the fetus is detached from this maternal supply of oxygen, and a state of oxygen deficit and carbon dioxide excess occurs which initiates respiration.<sup>4</sup>

Whatever the cause of asphyxia, the disturbed physiology is the same. The respiratory center does not respond to the normal stimulus of blood carbon dioxide which progressively rises while the oxygen of the blood is correspondingly lowered. Thus due to anoxemia, not only is the respiratory center further damaged, but the other body tissues suffer in like degree. Should this state of oxygen deficit exist long enough to fall below basal metabolic requirements, tissue damage results or death ensues. This concept of oxygen want in asphyxia is the most generally accepted today.

Flagg<sup>5</sup> has divided asphyxia into three categories of mild, moderate, and severe types. Most textbooks describe the pale-limp baby called asphyxia pallida and also the tonic-cyanotic baby called asphyxia livida, but whatever the type or severity of the asphyxia, the primary need of the infant remains the same, and that is oxygenation through the blood.

The cardinal principles of resuscitation of asphyxiated infants are clear cut: (1) clear the air passages of obstruction, (2) preserve body heat, and (3) oxygenate the blood. Rough handling such as a severe spanking, swinging, rectal dilatation, alternate plunges into hot and cold water, compressing the chest, flexion of the legs and body may add insult to injury. Physiologists and pediatricians have long pointed out the necessity for preserving the original body heat immediately following birth.

\*From the Department of Obstetrics and Gynecology, the University of Tennessee, College of Medicine, Memphis, Tenn. Read before the Tennessee State Medical Association, Memphis, Tenn., April 9, 10, 11, 1947.



Such methods as plunging a baby into cold water should be condemned. On the other hand, placing it in a basin of lukewarm water has merit. Many of these babies are in shock, and I agree with McCormick<sup>6</sup> that nowhere in medicine is shock treated so shockingly.

The fetal lungs are collapsed at birth, and if no respiratory movements have taken place, any method of resuscitation other than the direct introduction of oxygen into the bronchial tree to inflate the lungs is futile. Before any attempt is made to introduce oxygen into the bronchial tree, it must be completely freed of any obstructing material acquired from the birth canal since the asphyxiated baby has already aspirated before birth in most instances due to abnormal stimulation of the respiratory center while still in the birth canal. The use of a tracheal catheter will fulfill both of these needs.

In severe asphyxia the larynx and oropharynx behave like a collapsed tube, and air forced into the mouth will not penetrate the larynx very efficiently. Removal of mucus and other debris from the mouth and pharynx is insufficient because in most instances the trachea and bronchi are plugged. For these reasons the employment of mouth to mouth resuscitation and the use of the mechanical respirator have not given as good results as intratracheal intubation here at the University of Tennessee. We have seen intubation succeed on repeated occasions when both the former have failed.

Our technique is as follows: After the newborn is diagnosed as definitely asphyxiated, the cord is clamped and the baby placed in a basin of water just warm enough to be comfortable to the elbow. The head is supported in extension and the nasal passages, mouth and pharynx carefully freed of all mucus and other debris. The index finger is then introduced through the oropharynx to the glottis. The finger then palpates anteriorly to locate the triangle made by the two arytenoid cartilages and epiglottis to locate the rima of the larynx. A tracheal catheter is now introduced along side the index finger acting as a guide

through the larynx into the trachea. The trachea is then thoroughly aspirated as the catheter is withdrawn. The catheter is reinserted into the trachea and the finger now makes pressure over the larynx and body of the catheter to occlude any reflux of air when it is blown into the trachea. Artificial respiration is carried out by gently blowing into the catheter at the rate of about 20 times per minute. Just enough pressure should be used to barely distend the cheeks of the operator which will cause the baby's chest to move as in inspiration. This pressure will be about 25 mm. mercury or less. The operation is continued until the infant will respire naturally.

The effort is continued just as long as there is a heart beat before giving up. The longest operation in my experience has been 45 minutes. All of our resuscitated babies are immediately placed in an incubator under continuous oxygen and observed closely for 24 hours, handling as little as possible and using suction as indicated.

Complications observed have been laryngitis, laryngeal edema, hemorrhage from the larynx due to trauma, and distention of the stomach due to false passage of the catheter into the oesophagus. No doubt some alveolar rupture and emphysema have been caused by too forceful mouth pressure. We have not observed any bronchopneumonia that we felt as due to resuscitation.

Respiratory stimulating drugs are used only as adjuncts when the catheter technique does not give satisfactory results. One of the best to use is Alpha-Lobeline in 1/20 grain dose which sensitizes the respiratory center to carbon dioxide. Drugs like coramine and metrazol are used when it is felt the asphyxia is caused by over zealous sedation of the mother. Convulsions can be caused by too large doses of these drugs. There is experimental evidence that would indicate the ineffectiveness of respiratory stimulants in the newborn infant.<sup>7</sup> In our opinion no drug can take the place of oxygen, and we believe the best method of administering it is by intratracheal intubation.

## SUMMARY

The ability to resuscitate the asphyxiated newborn is a serious responsibility of all who deliver babies. The primary requirement of the asphyxiated baby is oxygen. Intratracheal intubation fulfills all the requirements of a satisfactory method of resuscitation, and the technique for tracheal catheterization and oxygenation of the blood have been given.

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## DISCUSSION

DR. JACK TEPPER (Chattanooga): I should like to compliment Dr. Atherton on the way he has handled the subject of resuscitation of the asphyxiated newborn infant. When I was asked to discuss his paper and had read over a copy of same, my first thought was, "This is a good paper." I am still of that opinion. It is brief, concise, and to the point. It reveals that the author has been thinking of terms of physiology.

The method of resuscitation of the asphyxiated newborn infant, as Dr. Atherton has pointed out, consists of three cardinal principles: (1) A clean, open airway; (2) prevention and treatment of shock; (3) oxygen. Dr. Atherton's method of inserting a tracheal catheter is much simpler to use than a small laryngoscope. It makes no difference the amount of equipment that might be present in the delivery room if the operator is not familiar with its use. Much irreversible damage has been done with instruments such as the laryngoscope and resuscitator. A simple catheter slipped into the trachea can do much less damage. Dr. Atherton mentioned drugs in the resuscitation of the newborn, and condemned them. Only too often have we seen adrenalin, caffeine, coramine, and metrazol used complacently with the statement, "Oh, a shot of that will make them breathe without any trouble." The stimulants adrenalin, caffeine, coramine and metrazol have absolutely no place in resuscitating a newborn. By resuscitation I mean the initiation of respiration. If labor was prolonged and maternal sedation heavy, small doses of a stimulant to counteract the effect of the sedation is in order, but that should be used only after

the baby has started to breathe. There is one drug, namely, Alpha-Lobeline, which does have a distinct place in resuscitating the newborn. If the rise in carbon-dioxide content in the blood does not reflexly initiate respiration, stimulation of the carotid sinus by the use of Alpha-Lobeline will frequently initiate respiration. Keeping the baby warm either by means of a warm bath or a previously warmed blanket is a procedure in which there is no controversy. The after care of asphyxiated babies with continuous oxygen in an incubator also goes without argument. Fluids to these babies should be withheld until the respiratory mechanism has become regulated. Frequent aspiration of mucus must be done.

In fact, I have no argument with anything that Dr. Atherton has said. To those men doing obstetrics I would like to throw in one plea for prematures. If we are to ever lower the mortality rate in prematures, I believe the omission of any analgesia or anesthesia to women in premature labor will help considerably. The resuscitation of these babies will be easier, and the amount of mucus that forms in the baby will be less.

I should like to commend Dr. Atherton for a delightful presentation.

DR. F. E. WHITACRE (Memphis): Mr. President and gentlemen of the society: It is with real pleasure that I see from our department our former resident discuss a subject that I believe is timely—timely because of the tendency that has swept the country toward mechanical means, and men begin to forget that their fingers are the safest obstetrical instruments, and that applies to the newborn.

Analgesics and the demand for relief of pain—and I agree with that—has increased, the number of babies that are anarcotized at birth has increased, and no one can deny that. It is necessary for a man to be able to use a tracheal catheter, which is very simple.

I am sure that the premature death rate and the infant mortality rate in general have fallen in our department since it has become mandatory for every man on the staff to be able to use a tracheal catheter and do no harm. The first axiom, of course, is to do no harm. How many times do we see, after the passing of a catheter and the suction put on it—and of course it is withdrawn during suction—that one is rewarded by the removal of a mucous plug, even bifurcated, to fit the primary bronchi?

I was glad to hear the previous discussant mention the use of the miniature laryngoscope on young infants, and that he felt the tracheal catheter was the safest means at our disposal.

If a doctor has the unfortunate experience of having a stillborn baby, baby salvage would be considerably increased if the doctor would take the time to practice a few times in the passing of a tracheal catheter so that he would be familiar



with the technic when the occasion demands. (Applause.)

DR. MILTON SMITH LEWIS (Nashville): The essayist has given us an excellent review of a very satisfactory method of resuscitation of the newborn. Although very simple in application, considerable experience is needed to perform this procedure properly. Without experience the pharynx and not the trachea may be intubated.

We have been using the Emerson Resuscitator at St. Thomas Hospital with excellent results. It has many advantages over the simple tracheal method, but it is much more expensive and rarely available for home deliveries. The method outlined by the essayist is entirely satisfactory for the general practitioner without access to a hospital.

Resuscitation of the newborn should be initiated immediately after the head is born. The nose and mouth should be cleansed with gauze and the mucus aspirated from the respiratory tract before the infant takes its first gasp. Much mucus can be aspirated which otherwise would be sucked down into the trachea on the first inspiration. We have found that close attention to this detail has reduced the number of asphyxiated babies almost 50 per cent.

After the baby is born and the respiratory tract cleansed, particular emphasis should be placed on the preservation of body temperature. Too many physicians not only fail to begin resuscitation immediately after the head is delivered, but they do not realize that preservation of temperature is one of the most important points in resuscitation of the newborn. The temperature of a newborn drops rapidly even at room temperature, and if the infant is not placed in a warm crib as soon as possible it may mean the difference between life and death.

I see no particular indication for the use of drugs in the resuscitation of the newborn. As much as I dislike to use the word "never" in medicine, I have yet to see any benefit from drugs before the infant's respiration was started.

Finally, I want to emphasize that all premature infants should have the benefit of caudal or saddle-block anesthesia rather than the usual analgesia and anesthesia.

This paper has brought to our attention the simplicity of resuscitation of the newborn, the importance of immediately cleansing the respiratory tract, and the advantages of oxygen and preserva-

tion of temperature. Careful application of the above principles of resuscitation leaves little to fear in the use of various analgesias and anesthetics during labor and delivery.

DR. NEVIN H. RUPP (Memphis): As an anesthesiologist, I would like to comment on Dr. Atherton's excellent paper.

First of all, I wish to point out the fact that oxygen activates the respiratory center, while carbon dioxide stimulates the center. You can't speed up a motor until you first start it running.

The first requisite of resuscitation is to use oxygen. Too many physicians think of oxygen only as a gas in a cylinder. The better physicians consider oxygen down in the lungs, and the biochemist and some few physicians today go one step further and consider oxygen in the individual cells of the body themselves.

In other words, oxygen is worthless unless it gets into the individual cells and is utilized by these cells, especially those of the respiratory center.

We know, too, that morphine is a histotoxic drug, and if we use a narcotic that is going to get into the newborn's system and stop the utilization of oxygen, we are complicating our chances for resuscitation. The picture is further complicated when we superimpose the use of anesthetic agents, many of which also have certain histotoxic properties, on an already hypoxic infant. The best treatment of asphyxia is prevention of hypoxia and by the intelligent selection of analgesic drugs and anesthetic agents, the danger of asphyxia can be minimized.

One comment on analeptics. Most analeptics are convulsants in the presence of oxygen and useless in the presence of asphyxia. Many times analeptics have been used in patients under deep anesthesia to no avail, and then when the patient reached a light plane of anesthesia with the patient well oxygenated, convulsions occurred.

Then to reiterate the treatment of asphyxia it is important to supply the baby with a high concentration of oxygen and to see that it is being utilized by the cells of the respiratory center. This presupposes a competent circulation to get the oxygen to the center. This should be adequate treatment, but if it is still felt that something else must be done, then the judicious use of other drugs can usually be done with impunity. (Applause.)



# THE JOURNAL

OF THE

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W. M. HARDY, M.D., Editor and Secretary

NOVEMBER, 1947

## EDITORIAL

### MEDICAL CONFERENCES

Beginning on September 29, the Secretary-Editor and the Assistant Secretary have attended six conferences in Chicago, Atlanta, and New Orleans. Several other members of the State Association have been present at one or more meetings. A brief statement of the purpose of each conference is in order, and as space permits the JOURNAL will carry some of the papers read at these meetings.

The National Physicians Committee called doctors and dentists from every state in the Union to Chicago. One hundred seventy-five were present. Political Medicine was the topic discussed. The Communistic foundation of the proposed change in the delivery of medical service was clearly shown. We were repeatedly told that "regimentation of medicine is the keystone of the Communistic State."

Congressman Forrest Harness told of unauthorized expenditures of federal funds by the proponents of Political Medicine. A copy of his address can be obtained from the National Physicians Committee. The address elaborated on the facts his Congressional Committee had already published. (See August and September JOURNALS.)

Our own Dr. H. H. Shoulders spoke on the plans of the Medical Service Foundation, which will play an important part in

the fight against political medicine. We will hear more of this program in the near future.

A summary of the two-days' session will soon be released, and we will publish it in a future issue.

At another conference in Chicago, School Health Needs were discussed for two days. In this issue of the JOURNAL we are reproducing a short report of the conference as given in the *American Medical Association News*. Educators outnumbered physicians in the conference. Everyone recognized the necessity of cooperation of all concerned if an effective solution of the School Health Problem is to be found.

This conference on School Health has suggested to the Committee on Scientific Work of the Tennessee State Medical Association the need to discuss our own school health program and to try to find the answers to some of our own problems. At an early date the Committee will announce the details of the school health program which will be given at the April meeting.

The Council on Public Relations of the American Medical Association is holding regional meetings all over America. Tennessee is included in the Southeastern Region and also in the Southern Region. So a number of Tennesseans were in Atlanta October 8 and in New Orleans October 23, 24. This issue of the JOURNAL reproduces the paper of Mr. Gaynor, of New Brunswick, Georgia, and at a later date the address of Governor E. M. Thompson will be published. Dr. Harrison H. Shoulders also addressed the Atlanta meeting and we hope to reproduce his address.

In New Orleans, Dr. W. C. Chaney was the Tennessee representative on the program. His manuscript will be published in the *New Orleans Journal*, but we hope to reproduce it for home consumption. Dr. Chaney made the headlines in the New Orleans papers by suggesting that one way for the doctors to improve public relations was to make more calls to homes of patients. Even night calls were recommended. Maybe he has something there!

While this issue of the JOURNAL is in press the Secretaries and Editors of all the States will be in a three-day session in Chicago.

The first day will be spent discussing Veterans Care in the Home Town with General Hawley, the Medical Director of the Veterans Administration. In some states there has been a little trouble over the contracts between the State Association and the Veterans Administration. We are glad that Tennessee has had no friction in caring for the Veterans. The Committee of our Association has signed a contract with the Administration, and no cases have been reported to the Boards of Review by either of the contracting parties.

The second and third days of the conference will be devoted to discussing problems of Secretaries and Editors. As a result of these conferences, we hope that the affairs of the State Association will be more efficiently administered and that the JOURNAL will be made more useful to the profession.

We might add that suggestions coming from the "grass roots" for improving both the JOURNAL and the service rendered by the headquarter's office will be gladly received and carefully considered. More suggestions coming from the members might reduce the necessity of attending conferences scattered from the Lakes to the Gulf.

## DEATHS

JOSEPH WALKER WYNNE, M.D.

Joseph Walker Wynne, M.D., Newbern; Vanderbilt University School of Medicine, Nashville, 1894; aged seventy-six; died September 25, 1947, following a long illness.

CYRUS CLAYTON MARSHALL, M.D.

Cyrus Clayton Marshall, M.D., Hornbeak; University of Louisville School of Medicine, 1897; aged seventy-five; died suddenly September 21, 1947.

WILLIAM HALL, M.D.

William Hall, M.D., R. F. D. No. 3, Halls; Memphis Hospital Medical College, 1911; aged sixty-seven; died October 29, 1947.

DEWEY FOSTER, M.D.

Dewey Foster, M.D., Westmoreland; Vanderbilt University School of Medicine, Nashville, 1925; aged forty-eight; died November 11, 1947.

## AND WE QUOTE

HEALTH IS EDUCATION'S FIRST OBJECTIVE,  
CONFERENCE AGREES

More Than 100 Educators and Doctors  
Meet to Discuss Cooperation of  
Physician in School Health  
Program

Health is the primary objective of modern education, a three-day Conference on the Cooperation of the Physician in the School Health and Physical Education Program, sponsored by the American Medical Association, concluded on Saturday, October 18.

More than one hundred representatives from four different agencies—state departments of education, state departments of health, state education associations, and state medical societies and associations—met at the Hotel Moraine in Highland Park, Illinois. Chairmen and summarizers of the discussions within the various sections were:

School Health Services — Chairman, Charles C. Wilson, M.D., New Haven, Connecticut, Professor of Public Health and Education at Yale University; Summarizer, C. Morley Sellery, M.D., Director of Health Services for the Los Angeles Public Schools.

School Health Programs and Studies—Chairman, Warren H. Southworth, Dr.P.H., Associate Professor of Education at the University of Wisconsin, Madison; Summarizer, Clair E. Turner, Dr.P.H., National Foundation of Infantile Paralysis, New York City.

The Physician and Physical Education—Chairman, Ben Miller, Ph.D., of the American Association for Health, Physical Education, and Recreation, Washington, D. C.; Summarizer, William L. Hughes, Ph.D., of Temple University, Philadelphia.

Pre-Service and In-Service Education—Chairman, Ruth Boynton, M.D., Director of the Student Health Service and Professor of Public Health at the University of Minnesota, Minneapolis; Summarizer, Cyrus H. Maxwell, M.D., of the New York State Department of Health at Albany.

The conference advocated that every school establish workable policies to assure its pupils of healthful school living conditions, appropriate health and safety instruction, adequate or superior education, and especially teachers and other school personnel with up-to-date preparation in health knowledge.

The leaders agreed that schools alone cannot enable children to attain all the desirable goals of individual and community health: parents have the primary responsibility. Physicians, dentists, nurses, health officers, social and welfare workers and their official organizations, such as medical, dental and nursing societies, health departments, voluntary health agencies, and social agencies are all rightfully concerned with health activities in their communities. School health policies must be formulated to achieve the maximum cooperation and coordination both within each school and each school system and between each school and the community.

"A scientific attitude toward health," said W. W. Bauer, M.D., Director of the Bureau of Health Education of the American Medical Association, "can break down superstitions and fads and thereby help pupils to analyze critically advertising and propaganda which may be misleading."

E. E. Vincent Askey, M.D., Los Angeles, president-elect of the California Medical Association, told the conference that children should also be taught "that sickness, accidents, and disability are not an abnormal expectancy in life."—*A. M. A. News*.

Dear Dr. Hardy:

In accordance with telegraphic instructions from Central Office, the following provisions of Veterans Administration Circular 17, February 14, 1947, affecting prima facie eligibility have been canceled:

Section 1, Par. 3 c (3)—"When application for treatment or hospitalization is made within two years from date of discharge from a period of war service for any condition (including chronic diseases), favorable consideration may be given upon a detailed statement of the claimant as to the nature of the injury or disease suffered in service and containing evidence warranting a tentative conclusion that the condition requiring treatment had its origin or aggravation in service."

This information is to be disseminated to any interested parties.

FRANK B. BREWER, M.D.,  
*Branch Medical Director,  
Veterans Administration.*

## NEWS NOTES AND COMMENTS

We recently received a copy of "Parergon" (work by the side of work). This edition is a book of 208 pages. It shows 1,100 examples of creative art by contemporary physicians. It is based on the art exhibit at the Atlantic City convention. Mead Johnson & Company, Evansville 21, Indiana, will send physicians, without charge, a copy upon request.

Earl D. Dorris, M.D., announces the opening of his offices for the practice of psychiatry, 1211 Bennie-Dillon Building, Nashville.

The Council on Industrial Health will hold its Eighth Annual Congress on Industrial Health in the Cleveland Auditorium, Cleveland, on January 5 and 6, 1948. These dates immediately precede the Interim Session of the American Medical Association, which will be held in the Auditorium on January 7 and 8.

The third annual meeting of the Southeastern Allergy Association will meet in Richmond, Virginia, on January 17 and 18, at the Jefferson Hotel.

At the Twelfth Assembly and Convocation of the United States Chapter, International College of Surgeons, held in Chicago at the



Medinah Temple on October 3, the following named doctors were among the 810 surgeons inducted into the College:

*Fellows*

Henry E. Christenberry, M.D., Knoxville.  
Kenneth W. Christenberry, M.D., Knoxville.

Earl R. Donathan, M.D., Knoxville.  
Martha Lou Hefley, M.D., Knoxville.  
Ulysses Grant Jones, M.D., Johnson City.  
Raymond M. Price, M.D., Oak Ridge.  
Matthew Walker, M.D., Nashville.  
James Barr Ely, M.D., Knoxville.  
Carmen Easley James, M.D., Memphis.  
Roy E. Christie, M.D., Oak Ridge.  
Michael W. Holehan, M.D., Memphis.  
William D. L. Record, M.D., Chattanooga.  
Kyle C. Copenhaver, M.D., Knoxville.

*Associates*

John H. Leshner, M.D., Knoxville.  
Haskell W. Fox, M.D., Greeneville.  
Harry Myron, Jr., M.D., Johnson City.  
Joseph E. Young, M.D., Sweetwater.

*Affiliate*

Dan Jackson Zimmermann, M.D., Morristown.

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YOUR DIRECTORY INFORMATION CARD

Preparations are now being made to publish the new Eighteenth Edition of the American Medical Directory. The last edition of the Directory was issued late in 1942. Since that time, it has been impossible to publish a new edition because of wartime restrictions and the shortage of paper and labor.

About November 15, a directory card will be mailed to every physician in the United States, its dependencies, and Canada, requesting information to be used in compiling the new Directory. Physicians receiving an information card should fill it out and return it promptly whether or not any change has occurred in any of the points on which information is requested. It is urged that those physicians also fill out the right half of the card, which information will be used exclusively for statistical purposes. Even if a physician has sent in similar information recently, mail the card promptly to insure the accurate listing of his name and address. There is no charge

for publishing the data nor are physicians obligated in any way.

The Directory is one of the most important contributions of the American Medical Association to the work of the medical profession in the United States. In it, as in no other published directory, one may find dependable data concerning physicians, hospitals, medical organizations, and activities. It provides full information on medical schools, specialization in the fields of medical practice, memberships in special medical societies, tabulation of medical journals and libraries, and, indeed, practically every important fact concerning the medical profession in which anyone might possibly be interested.

Therefore, should any physician fail to receive one of these Directory Information cards by December 1, he should write at once to the Directory Department requesting a duplicate card be mailed.

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INDUSTRIAL HYGIENE CONFERENCE

A Conference on Industrial Hygiene will be held in the auditorium of the Doctors Building, Nashville, at 9:30 A.M., on December 5, 1947. Doctors and others interested in the subject are invited to attend.

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AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next written examination (Part 1) for all candidates will be held in various cities of the United States and Canada on Friday, February 6, 1948, at 2:00 P.M. Candidates who successfully complete the Part 1 examination proceed automatically to the Part 2 examination held later in the year.

For further information and application blanks, address Paul Titus, M.D., Secretary, 1015 Highland Building, Pittsburgh 6, Pennsylvania.

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DOCTORS AND LOCATIONS WANTED

We have recently received confirmation of the need of doctors in various parts of the State. The following list has been checked during the past month:

*Lincoln County, Petersburg (581).* Need general practitioner. Good territory; com-

munity above average; district sound financially. Address J. L. Scott, Secretary, Lions Club, Petersburg.

*Monroe County, Tellico Plains* (899). General practitioner needed in mountain location fourteen miles from Tellico Plains. Contact Mrs. L. Pickard, Star C. Route, Tellico Plains.

*Humphreys County, Camden* (992). Need doctors. Contact County Medical Society, Dr. H. C. Capps, Secretary, Waverly.

*Humphreys County, Waverly* (1,318). This would be a good opening for young doctor. Office for rent. Contact Mrs. W. W. Slayden, Waverly.

*Hardeman County, Whiteville* (796). Need general practitioner. Trade area of 1,000. Sixty miles from Memphis. Modern clinic building can be acquired at a reasonable rate. One doctor of eighty not able to work. Contact A. B. Weeks, pharmacist, Whiteville.

We also have letters from two doctors inquiring about location in Tennessee.

"Would you please send me information on the opportunities for a rural general practice in Tennessee? If you do not have such information available, would you tell me where I might obtain it? I am a Diplomat of the National Board of Medical Examiners.

C. E. G.,  
510 Doctors Building,  
Nashville, Tennessee."

"I am desirous of locating in your state and establishing a practice of General Surgery. I would prefer to limit my practice to General Surgery, but would consider a location where the majority of the work is general surgery with a minimum of general practice. An association with an older or established general surgeon or a small clinic would be most desirable, but would appreciate information as to any community where a general surgeon is needed. The following are my qualifications: I was graduated from the University of Louisville School of Medicine, Louisville, Kentucky, in 1937. Since then I have had seven years of general surgery training, some of the time spent in the basic sciences. My qualifications are acceptable to both the Ameri-

can Board of Surgery and the American College of Surgeons. I was in the Army for two years, twenty months of which were overseas, the latter part of which I was Chief of Surgery in a General Hospital in Europe. I am married, aged thirty-eight, of Protestant faith, and my home is in Kentucky.

R. H. H.,  
510 Doctors Building,  
Nashville, Tennessee."

The Fulton County Medical Society, 875 West Peachtree Street, N. E., Atlanta, Georgia, announces a three-day Postgraduate Assembly to be held in Atlanta, January 28, 29, and 30, 1948, immediately following the Regional Meeting of the College of Surgeons. Because of the College of Surgeons meeting, surgical subjects will not be emphasized in this Assembly. The program has been arranged to help the average doctor keep abreast of the newer developments, but it is believed it will offer something of value to every man and woman practicing medicine in the Southeast.

The College of Surgeons invites all physicians in this region to their meeting, the expenses of which will be met by the College. The Postgraduate Assembly will have to require a registration fee.

The list of speakers is the best assurance of the excellence of the Assembly:

Dr. Lester Dragstedt, Professor of Surgery, University of Chicago.

Dr. Chester S. Keefer, Professor of Medicine, Boston University.

Dr. A. C. Ivy, Professor of Medicine, Northwestern University.

Dr. Helen Taussig, Johns Hopkins University.

Dr. Julius Lempert, New York City.

Dr. Philip S. Hench, Mayo Clinic.

Dr. E. von Hamm, Professor of Pathology, University of Ohio.

Dr. Ralph M. Tovell, Hartford, Connecticut.

Dr. Robert Elman, Washington University, St. Louis.

Dr. Tom D. Spies, Professor-Elect of Medicine, Northwestern University.

Dr. Merrill C. Sosman, Clinical Professor of Roentgenology, Harvard Medical School.

## MEDICAL SOCIETIES

### *Consolidated Medical Assembly of West Tennessee:*

Fifty-five members and guests of the Consolidated Medical Assembly of West Tennessee were present at the dinner meeting on October 7 at the New Southern Hotel, Jackson, to hear Dr. William Parsons, Chief of Endocrinology of Ochsner Clinic of New Orleans, Louisiana, speak on "Masculizing Syndromes." Dr. Parsons' talk was illustrated with slides.

The Assembly also saw a Parke, Davis & Company picture entitled "Low Cervical Cesarean Section with Hemorrhagic Control by Thrombin Topical."

Dr. W. A. Phillips of Adamsville was elected to membership. Drs. Allen and Barbara Truex were introduced as new members of the Assembly.

Visitors at the meeting were Dr. Virginia E. Gross and Dr. McKenzie Gross of Bolivar; Dr. Robert Gilliam, Jackson; Dr. S. P. Marshall, Jackson; Dr. James R. Barr, Selmer; and Dr. Stanley Hill, Corinth, Mississippi.

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### *Davidson County:*

October 7: "Consideration of Segmental Neuritis in the Diagnosis of Abdominal Diseases," by Dr. Carl S. McMurray.

October 14: "Vitamins." Moderator: Dr. William Darby. Collaborators: Drs. James Kirtley, J. C. Overall, F. T. Billings, and Richard Cannon.

October 28: "Public Health Problems." Moderator: Dr. William Frey. Collaborators: Drs. John Lentz, R. H. Hutcheson, and C. L. Sebelius, Nashville, and Dr. Felix J. Underwood, Jackson, Mississippi.

November 4: "The Effect of Smoke on Health," by Dr. Clarence A. Mills, Professor of Experimental Medicine at the University of Cincinnati, Cincinnati, Ohio.

November 11: "Low Back Pain." Moderator: Dr. Eugene Regen. Collaborators: Dr. Cobb Pilcher, Herbert Francis, and Claiborne Williams.

Paper scheduled to be read:

November 25: "The Ulcer Problems as Affected by Vagotomy," by Dr. Lester Dragstedt, Chairman of the Department of Surgery at the University of Chicago, Illinois.

December 9: "Some Practical Considerations of Laboratory Procedures in the Diagnosis of Infectious Diseases," by Dr. J. G. Buddingh.

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### *Five Counties:*

The Five-County Medical Society, composed of the physicians from the counties of Cumberland, Jackson, Overton, Putnam, and White, met in Crossville, September 18. Dr. Thurman Shipley of Cookeville read a paper on "Resume of the Recent Research on Cancer."

The November meeting of the Society will be held in Sparta.

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### *Henry County:*

The Henry County Medical Society met in Paris on September 30. Dr. J. W. Didcoct presented a paper on "Recent Drugs and Preparations of Special Interest."

Those present were Drs. W. G. Rhea, E. B. Paschall, R. G. Fish, G. R. McSwain, I. H. Jones, A. C. Dunlap, J. W. Didcoct, J. H. McSwain, C. H. Johnson, Henriette Veltman, Elroy Scruggs, J. R. Smith, J. A. Brasfield of Paris, and Dr. G. L. Daniel of Henry.

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### *Knox County:*

October 7: "The Indications and Technic of Gastrectomy," with a discussion of "Vagotomy," by Dr. George Novinger, Montreal, Canada.

October 21: "Classification of Cardiovascular Diseases in the Fundus as Employed at Northwestern," by Dr. M. S. Crowder. Discussion by Drs. John Montgomery and Robert Leach.

November 4: "Pilonidal Disease," by Dr. J. M. Stockman. Discussion by Dr. Sam Cooper.



## ABSTRACTS OF CURRENT LITERATURE

### ANESTHESIA

By H. M. AUSERMAN, M.D.  
Medical Arts Building, Chattanooga

Scopolamine and Apomorphine in Labor. Bert B. Hershenson. *American Journal of Obstetrics and Gynecology*. Vol. 53, pp. 980-995, 1947.

For complete amnesia and a safe degree of analgesia during childbirth, scopolamine and apomorphine are a valuable combination. Scopolamine, the most reliable agent for obstetric amnesia, often overstimulates. Subemetic doses of apomorphine prevent excitement, increase analgesia, and do not interfere with maternal or fetal functions.

A survey of 500 cases convinced Bert B. Hershenson, M.D., and Elwood R. Brubaker, M.D., that the two drugs combined are more satisfactory than other forms of premedication for the first and second stages of labor.

Scopolamine hydrobromide is obtained in fresh soluble tablet form. Subcutaneous or intramuscular injection produces the maximum result in thirty minutes, intravenous in one-fourth the time. Effects last about two hours.

To prepare a solution of apomorphine hydrochloride, twenty-four milligrams are dissolved in twenty cubic centimeters of sterile normal saline solution. The glass vial container is labeled "one cubic centimeter equals one-fiftieth grain, one and two-tenths milligrams," and kept in the dark.

The peak results of an intramuscular or subcutaneous dose occur in twenty to thirty minutes, of intravenous administration in ten to fifteen minutes. Effects last about two hours. Dosage depends on cortical irritability.

At Boston Lying-In Hospital, the following regimen has been used in over 1,300 cases:

If psychic sedation is needed, three grains of seconal is given by mouth or rectum after the admission enema. When labor pains become distressing, six-tenths milligram of scopolamine and the same amount of apomorphine are injected. An hour later forty-five hundredths milligram of scopolamine and one and two-tenths milligrams of apomorphine are administered, and every two hours thereafter three-tenths milligram of scopolamine and one and two-tenths milligrams of apomorphine.

Medication may be simplified further by giving six-tenths to one and twenty-two hundredths milligram of apomorphine whenever necessary to reduce overactivity during contractions. Up to five doses of one and two-tenths milligrams have been given in one hour without harm. Amnesia is most satisfactory if the total number of combined doses is three or more.

During premedication the patient feels numb and drowsy, sleeps between pains, but may turn or try to sit up during hard contractions.

Maternal blood pressure, pulse, and respirations are not adversely affected, although scopolamine may cause tachycardia if not full balanced by apomorphine medication, before labor is definitely established and may decrease uterine activity.

Maternal or fetal exhaustion is met by administration of fluids, dextrose, vitamins, and oxygen rather than by forced delivery.

### CARDIOLOGY

By J. ALLEN KENNEDY, M.D.  
Bennie-Dillon Building, Nashville

The Treatment of Hypertension. *The Journal of the American Medical Association*, Vol. 135, No. 9, pp. 576, 577, November 1, 1947.

This is a review of a timely critical editorial on one aspect of the treatment of hypertension.

For the past two years patients from many parts of the country have sought treatment in North Carolina with the so-called "rice diet." Some have returned with unaltered blood pressure and an intense dislike to management by diet, but many others have returned to their homes with reduced blood pressure, improved vision, and a determination to remain on a diet low in protein and salt. Adequate scientific evidence is not available to prove that a diet based on rice is superior to one including wheat, barley, oats, or buckwheat. For years favorable results have been claimed in the treatment of hypertension by a low salt diet, but evidence is lacking that protein restriction is valuable in hypertension. A diet especially low in salt is not acceptable to most patients.

A recent study from the University of Michigan confirms earlier work on the use of a low salt diet for the treatment of hypertension and heart failure. A diet containing two hundred milligrams of sodium and seventy grams of protein daily led to a fall of twenty millimeters in the diastolic blood pressure in fifty-eight per cent of patients. The best results reported for resection of the splanchnic nerves showed a similar fall of blood pressure in sixty-one per cent of patients. Splanchnic nerve section has a definite operative mortality and a considerable post-operative morbidity. Postural hypotension may be more disabling than the pre-operative hypertensive symptoms. Sodium depletion also has a morbidity and even a mortality. Weakness, nausea, and muscle cramps may appear before a satisfactory fall in blood pressure is obtained. In patients with severe renal vascular disease, uremia may be precipitated. This may

Patients who have been on an ordinary average American diet take approximately twelve to twenty grams of salt (five to eight grams of sodium) daily, and they must follow the low salt regime for weeks

before its effect on the blood pressure can be properly evaluated. A therapeutic low salt diet must contain less than two hundred milligrams of sodium daily. For this reason results with the low salt diets are disappointing when the daily intake of four hundred to eight hundred milligrams of sodium are used.

Patients with severe vascular disease or chronic nephritis may lose six hundred to eight hundred milligrams of sodium daily in the urine as compared to forty milligrams lost daily by other patients with hypertension. A state similar to Addison's disease occurs when the salt intake is reduced. The patient's symptoms must be followed carefully at the start of the low sodium regime.

Mercurial diuretics greatly increase the loss of sodium in the urine.

If renal impairment makes protein restriction advisable, rice should be used as the main source of calories and protein, for on no other regime do patients come into nitrogen equilibrium on such a low protein intake.

Many patients have accepted the rice diet, and many more have accepted diets made less strict by giving more protein and using mercurial diuretics. With our present diets and diuretics a physician can determine the effectiveness of sodium depletion on the symptoms and blood pressure of any hypertensive patient.

## DERMATOLOGY

By CLARENCE SHAW, M.D.  
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Chattanooga 2

The Treatment of Dermatitis Venenata (Rhus) by Cryotherapy. Murry M. Robinson, M.D. The Journal of Investigative Dermatology, Vol. 1, p. 239, May, 1947.

The use of refrigerants in the treatment of dermatitis venenata gave excellent results in over one hundred cases treated by the author. Liquid air, dry ice, and ethyl chloride were the substances used. The last proved to be the most satisfactory. The ethyl chloride is sprayed on the involved areas in the same manner in which it is used for local anesthesia, until the skin begins to frost, and then continued for a few seconds until the sprayed area is a little hard to the touch. The spray was repeated at twenty-four-hour intervals. The first sensation is that of cold which changes to burning and then becomes numb. There is almost immediate cessation of itching. Care should be taken in spraying ethyl chloride on facial lesions because of its general anesthetic effect. This danger can be avoided by applying a nasal clamp and having the patient breathe through a rubber tube. Mild lesions clear with a single treatment, but others require two to three daily applications. Apparently the mechanism for the achievement of the

desired effects is due to the freezing producing an ischemia and causing, in addition, a rupture of the vesicle walls with discharge of its contents. This method of treatment is not specific for poison ivy, since promising results were obtained in other dermatoses composed of vesicular lesions. Herpes simplex, Herpes zoster, and epidermophytosis were benefited by similar treatment.

## GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.  
649 Doctors Building, Nashville

Studies on the Human Corpus Luteum: Histologic Variations in Corpora Lutea and in Corpus Luteum; Endometrial Relationships at the Onset of Normal Menstruation. John I. Brewer, M.D., and Harold O. Jones, M.D., Chicago, Illinois. American Journal of Obstetrics and Gynecology, Vol. 54, No. 4, pp. 561-575, October, 1947.

It is rather generally accepted that the life cycle of the human corpus luteum, the cycle of the endometrium, and the relationships of these two tissues one to another are constant and are not subject to variations. During their active normal functioning state we believe that this is usually true. Variability does occur, however, in these two issues and in their relationships during the regressive stage, principally near and just after the onset of menstruation each month. The authors demonstrate the normal variations and discuss their clinical importance. Endometrial studies are frequently made in an effort, first, to determine the presence or absence of a corpus luteum; second, to estimate the functional capacity of the corpus luteum in preparing the endometrium for pregnancy; and third, to study corpus luteum activity in relation to abnormalities of the menstrual cycle. Without proper evaluation of the normal variations these clinical studies may be subject to misinterpretation. There are variations in the histologic characteristics of the granulosa lutein cells in different corpora lutea and also in the same corpus luteum just prior to and during day one of menstruation. These variations represent normal differences in rate and extent of degeneration in these cells. There are variations in the histologic characteristics of the different endometriums and also in different regions of the same endometrium just prior to and after the onset of menstruation. There are also variations in the corpus luteum-endometrial relationships during this period. Because of these variations, interpretations of endometrial biopsies taken near the time of onset of menstruation are particularly subject to error. More accurate conclusions can be reached only by study of endometrial tissues obtained during the active functioning life of the corpus luteum and the endometrium.



## INDUSTRIAL MEDICINE

By JEAN SPENCER FELTON, M.D.  
Monsanto Chemical Company  
Clinton Laboratories  
Oak Ridge

Control of Fungous Infections of the Feet in Industry.  
Louis Schwartz, M.D. Occupational Medicine, Vol. 3, p. 543, June, 1947.

During the past few years there has been considerable concern among workers relative to contracting of "athlete's foot" from change room floors. There has also been a feeling that fungous infection, accompanied by phytids, predisposed a worker to other industrial skin conditions.

In a survey by the United States Public Health Service of 1,393 men and 730 women examined, twenty-eight per cent of the workers had fungus infection of the feet; thirty-four per cent were doubtfully infected; and thirty-eight per cent were clinically free. There was no significant difference in the incidence of infection between men and women.

Cultures of 819 cases were positive in nineteen per cent of the cases of clinically positively infected; in six per cent of those clinically doubtfully infected, and one and five-tenths per cent of the cases that were clinically negative. The organisms recovered were trichophyton gypseum in ninety-two per cent of the cases; trichophyton purpureum in seven per cent, and epidermophyton inguinale in one case. These fungus infections were more prevalent in the summer than winter and the figures revealed also that the incidence of these infections among industrial personnel is no greater than among the general population.

In regard to the shower room floors, it was possible to recover trichophyton gypseum from pine floors on which it was planted, even after one week. No pathogenic fungi could be recovered from the pine lattice flooring after several hundred workers had taken showers. The incidence of infection among a group of 354 workers taking compulsory showers after work with foot baths containing one per cent solution of sodium hypochloride was compared with the incidence of 464 workers not taking showers, and there was little significant difference between the two groups. *This solution kills fungi in infected epithelial scales only after more than one hour, and no worker stands that long in a foot bath.*

As some physicians have refused employment in factories where there are many allergenic chemicals, to individuals with fungus infection, a group of workers was given trichophyton tests. Only forty-two per cent showed hypersensitivity to fungi, and since only twenty per cent of occupational dermatoses are of the allergic type, and since one per cent of all workers have occupational dermatoses, it follows that only two-tenth per cent have allergic dermatoses, so that fungous allergy can concern only eight out of every ten

thousand workers. It is concluded that fungous allergy plays an insignificant role in occupational dermatoses.

Certain recommendations are made by Dr. Schwartz to prevent the contracting and spreading of infection. Among these are: the wearing of wooden-soled bathing slippers into the showers and keeping them on until the worker returns to his locker. The feet should be dried thoroughly, especially between the toes, and all scales and dried skin should be removed, since the trichophyton requires heat, moisture, and dead skin in order to grow. A nonirritant, antiseptic absorbent powder should be sprinkled between the toes to absorb moisture, keep them dry, and thus discourage the growth of fungi. A nonirritant, antiseptic ointment can be used and a frequent change to clean, dry stockings.

As to treatment, it is pointed out that strong salicylic acid ointments, which inflame an already injured skin, and coal tar dyes are no longer used. Soothing applications are used until the acute symptoms subside and then are followed by non-irritating fungicides. Fatty acid preparations have been in use, such as the salts of propionic, undecylenic, oleic, and caprylic acids. The chlorophenols, orthophenyl phenols, and salicylanilide have been used successfully. Reinfection will occur unless the patient follows the prophylactic measures mentioned above.

## OBSTETRICS

By MILTON SMITH LEWIS, M.D.  
Bennie-Dillon Building, Nashville

An Analysis of Deaths from Post Partum Hemorrhage.  
C. T. Beecham. American Journal of Obstetrics and Gynecology, Vol. 53, pp. 442-452, 1947.

This analysis is based on 168 deaths from post partum hemorrhage, representing an incidence of 8.45 per cent of the total in fifteen years. The average is 11.2 deaths from this cause per year in Philadelphia. The Maternal Welfare Committee has judged 121, or seventy-two per cent, of these deaths to be preventable, and 62.5 per cent were judged preventable due either to errors in judgment or technique on the part of the attending obstetrician. In 9.5 per cent of cases the patient, either through carelessness or ignorance, was held responsible for her own death.

The average age of the women dying from post partum hemorrhage was 31.5 years (ranging from fifteen to forty-four years). Eighty-four per cent of the group were white; sixteen per cent were Negro. Labor began spontaneously and the membranes ruptured spontaneously in the average case. The average duration of labor was fourteen hours. Twenty-one of the patients were delivered and died at home, while four were delivered at home and died in a hospital.



One-third of the patients delivered spontaneously, while the remaining two-thirds had various obstetric operations; the vast majority of the operations were considered not indicated. Low forceps were employed in about twenty per cent of cases, manual dilatation of the cervix and version in about fifteen per cent, cesarean section in about twelve per cent, midforceps in about eight per cent, and breach extraction in about six per cent. Manual dilatation of the cervix and version was uniformly condemned. Complications ran higher where interference was practiced, although the spontaneous delivery group was not free of complications.

Ether was used in over fifty per cent of cases and nitrous oxide in slightly over ten per cent. Twenty-nine per cent of the patients had no anesthesia and thirty-three per cent delivered spontaneously. Therefore, from these figures one could state that a patient delivering spontaneously without anesthesia is just as liable to hemorrhage as the patient with an operative delivery and general anesthesia.

In one-third of the cases the patient received an oxytocic at the beginning of the third stage of labor and at completion of placental delivery. The remainder had oxytocics only at the end of the third stage. Inhalation anesthesia for delivery was continued until the placenta was delivered. Normal expression of the placenta took place in two-thirds of the group, manual removal in about thirteen per cent, removal at cesarean section in about twelve per cent, and late manual in less than five per cent. In about seven per cent of cases a retained placenta was not delivered.

As to etiology of post partum hemorrhage, seventy-two per cent of the cases fell into the atonic uterus group. In 44.64 per cent no cause for the uterine atony could be determined. There were eleven cases (6.54 per cent) of inversion of the uterus; none had the uterus replaced. Other causes listed were ruptured uterus, 4.16 per cent; lacerated cervix, 4.16 per cent; and myoma uteri, 2.38 per cent.

As to treatment, 41.5 per cent of the patients were allowed to bleed to death with nothing more than uterine massage and oxytocics being used. Intravenous fluids were given to 44.5 per cent, while twenty-five per cent received blood transfusions. Plasma was used in only twelve per cent. Uterovaginal packing was used in only 26.5 per cent of cases. Late packing, when the patient was practically moribund, was used in sixteen per cent, while late transfusions were employed in 9.5 per cent. Only two patients received more than 500 cubic centimeters of blood before death.

The average time between delivery and death was five and one-half hours; there was usually ample time for adequate treatment.

The entire series is impressive from the standpoint of almost total disregard for the necessity of combating anemia in pregnancy as an aid in

treatment of possible post partum hemorrhage. Another prophylactic measure is routine typing of all prenatal patients. During labor, little attention was directed in this series toward judicious sedation or measures employed to combat fatigue and exhaustion. Ill-advised operations and meddlesome obstetrics were further etiological factors. Poor choice and use of anesthesia and poor management of the third stage of labor were obvious causes. All too often there was failure to recognize hemorrhage in time, continuous "seepage" or "oozing" of blood being unnoticed by attendants. Finally, there was insufficient use of oxygen, packing, and whole blood to combat hemorrhage.

## OPHTHALMOLOGY

By ROBERT J. WARNER, M.D.  
Doctors Building, Nashville

Retinal Hemorrhage as Seen in an Atomic-Bomb Casualty. K. B. Benkwith. *Archives of Ophthalmology*, September, 1947.

Benkwith reports the case of a fourteen-year-old Japanese girl who suffered excessive gamma ray irradiations, producing her clinical picture. She was about one mile (1.6 kilometers) from the hypocenter of the atomic bomb at Nagasaki in her home, which was demolished. Her fundi showed massive preretinal hemorrhages and hemorrhages into the fiber layer of the retina. These were distributed around the disk and in close association with the retinal vessels for approximately three disk diameters peripheral to the disk. Small, fluffy, white exudates were scattered about the disk and in close approximation to the retinal vessels of greater caliber. She was pronounced well at the turn of the year.

## BOOK REVIEW

Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1946. Cloth. Price, postpaid, \$1.00. Pp. 135. Chicago: American Medical Association, 1947.

This volume was formerly of most interest to those who wished to know why the Council on Pharmacy and Chemistry had not accepted certain of the preparations it had considered. The reports were mainly those of rejection, though through the years the educational nature of the Council's work was attested by status reports on drugs, or therapeutic procedures, or preliminary reports on agents showing promise of usefulness but not yet ready for adoption by the general and medical profession. In recent years, the tendency has been toward a preponderance of the educational type of report. In the present volume, both the condemnatory and the educational phases of the Council's work are represented.

There are three reports of vigorous condemnation: first, the report on cabasil, a curiously unscientific mixture whose exploitation for use in a multitude of diseases is aptly summarized by the subtitle of the report, "Quackery Unlimited"; second, the report of the pseudoscientific ethylene disulphonate (Allergosil brand) a preparation of highly uncertain nature exploited to physicians for use in allergic conditions; third, Formula A-N-1, a joint report of the Council on Pharmacy and Chemistry and the Council on Industrial Health, concerning an expensive but poor substitute for aspirin and citrate of magnesia, cleverly promoted to industrial concerns for use in reducing absenteeism due to colds.

Among the status reports, the excellent article of Dr. Samuel M. Feinberg, "Histamine and Antihistaminic Agents," is probably most worthy of mention. Since its appearance, the Council has accepted for inclusion in New and Nonofficial Remedies the two new agents of this class evaluated in the article, diphenhydramine hydrochloride

and tripeleennamine hydrochloride (benadryl hydrochloride and pyribenzamine hydrochloride, respectively).

Pharmaceutical and scientific investigators, alike, will be interested in the informative report on the Council's new Therapeutic Trials Committee. Of special interest to manufacturers is a statement on the revised rules of the Council, though this exposition of the trends of Council policy is of concern to all who are interested in progressive rational therapeutics.

Attention is called to the several reports on the adoption of generic designations for drugs proposed or marketed under protected names. Not all such actions of the Council have been the subject of separate published reports; the recognized terms have appeared in the published descriptions of the drugs when accepted, and will be inserted in another Council publication, New and Nonofficial Remedies, as adoption of such designations for already accepted protected names proceeds.



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# The Journal of the TENNESSEE STATE MEDICAL ASSOCIATION

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## VOLUNTARY PREPAYMENT MEDICAL CARE PLANS\*

JAMES R. McVAY, M.D., Kansas City

The development of Voluntary Prepayment Medical Care Plans can best be considered in three phases of development—the past, the present, and the future.

### THE PAST

In reviewing the historical background of such plans we are impressed that in their modern concept they are a strictly American idea. The earliest voluntary plan was that of the Northern Pacific Railroad Benefit Association which was established in 1882. It has been successfully operated continuously since that date. In 1911 there was enacted in the State of Washington a workmen's compensation law covering the more hazardous industries. It provided that workers in mining, lumbering, and railroading be compensated for loss of wages due to injury. A similar law enacted in Oregon in 1913 and the Medical Aid Act of 1917 provided that employer and employee contribute equally to medical care costs. This resulted in hospital associations and private clinics agreeing to furnish the service under contract. After a short time these services were expanded to include all medical and surgical care, later their dependents were added, and thus the pattern was made which still exists today in this section of the United States. Later County Medical Societies established medical service bureaus, twenty in Washington and five in Oregon. For administrative

purposes they are now conducted as single statewide plans.

About 1930, in the midst of the depression, hospital administrators were confronted with the serious problem of patients being unable to pay for their hospital accommodations. Hospitals everywhere were operating with increasing deficits. Individual hospitals began forming hospital service associations to spread the cost of hospital service among large groups of subscribers and thus relieving the individual of excessive demands of a catastrophic illness. In these early contracts it was necessary for the patient to go to the individual hospital where he held membership. Soon this undesirable requirement was overcome by hospitals making reciprocity arrangements, allowing a subscriber to be a patient in any of the reciprocating hospitals. This arrangement proved most satisfactory to the subscribers, and the administrative work was set up in central offices. The approval of this plan by the American Hospital Association was soon forthcoming, and it became known as the "Blue Cross Hospital Plan." The success of the operation and growth of these plans has without question been due to the unselfish cooperation of the medical profession, without which they could not have succeeded.

The success of the Blue Cross Hospital Service Plan gave the impetus to State Medical Societies to experiment with similar plans for easing the burden of costs of medical care for so-called catastrophic illnesses. In 1934 the House of Delegates of

\*Read before the Secretaries and Editors' Conference, Chicago, November 7, 1947.

the American Medical Association promulgated ten principles for the guidance of those medical societies entering upon these new experiments in medical care. In 1939 the California Physicians Service was established with the sponsorship and approval of the California State Medical Society. In late 1939 Michigan Medical Service was organized and began operation in early 1940. The growth of these plans was surprisingly rapid and soon led to the formation of many State and County Medical Society sponsored plans. By May of 1946, thirty-one states had voluntary prepayment medical care plans. Counting the plans of Washington and Oregon as single state plans, there was a total of fifty-one plans in operation in 1946. Studies of the operation of the plans was continued at the American Medical Association Headquarters, and in order that the experience of the various plans might be more adequately correlated, the House of Delegates of the American Medical Association in its June, 1943, session created the Council on Medical Service and Public Relations. In a six-point preamble setting forth its duties, the Council was charged with facilitating the exchange of data and providing accurate information to everyone on the development of plans affecting the distribution of medical care.

This rather lengthy review of the early historical background of the Voluntary Prepayment Medical Care Plans in America shows that, contrary to the propagandic assertion of certain social planners, these plans were hastily set in operation; the facts are that in America the pattern was being made as early as 1911, long before the first congressional bill to nationalize and socialize medical care. The fact that the medical profession felt a sense of responsibility to the American people has caused them to proceed cautiously into this unexplored field, experimenting with known factors only to the end that the results of their experiments would not be disappointing to the American people. It seems to me this sense of responsibility is to be commended rather than censured.

## THE PRESENT

The Council on Medical Service and Public Relations then set up a Division on Prepayment Plans, which began a detailed study of all medical care plans. All available information on the Industrial, the University Student, the Consumer and Cooperative, the Governmental, the Blue Cross, and the Medical Society and Physicians Group Plans was secured and studied in detail. The type of organization, governing body, area covered, type of contract, income limits, enrollment, benefits, exclusions, waiting periods, monthly premiums, Blue Cross relationship, and insignia used were some of the main factors which were reviewed and compared. From these studies the Council on Medical Service set up Standards of Acceptance for Medical Care Plans. These standards included such important factors as (1) local approval; (2) professional control; (3) arbitration; (4) free choice of physician; (5) patient-physician relationship; (6) statement of benefits; (7) honest promotional activities; (8) sound enrollment practices; (9) duration of acceptance. Thus it can be seen that plans meeting these basic requirements are most likely to be actuarially sound, financially successful, and be able to deliver a high grade of medical care to the enrollees at a cost they can afford to pay. Plans which meet all the above standards are granted the Council's "Seal of Acceptance." This seal is rapidly receiving the recognition in this field that the public has already given the "Seal of Approval" of the Council on Pharmacy and Chemistry of the American Medical Association.

In the 1945 session of the House of Delegates it was resolved that: "The Board of Trustees and the Council on Medical Service will proceed as promptly as possible with the development of a specific national health program with emphasis on the nationwide organization of locally administered prepayment medical care plans sponsored by medical societies." A short time thereafter these two bodies evolved and recommended a Ten-Point Program for National Health. The wide approval which these suggestions received from the American people was most encouraging. The Council then as-



sisted in the rejuvenation and reorganization of the Council on Medical Service Plans of America into the Associated Medical Care Plans, Inc. The activities of this organization are closely correlated both administratively and physically with the operation of the Council on Medical Service.

The Council must be concerned with the activities of all medical care plans, but has given more study to Medical Society sponsored Voluntary Prepayment Medical and Surgical Care Plans. It has continually aided those already established by the dissemination of information regarding successful practices and warning against unsound procedures. With the Council acting as a clearinghouse, the formation and operation of plans has become far less hazardous. No medically sponsored plan has failed financially since 1919. The aid of the Council is constantly sought and given to those plans which are in the process of formation or expansion.

The growth of medical care prepayment plans since 1939 has been most satisfactory. It has paralleled closely the growth of hospital service plans. There were thirty-eight Blue Cross Hospital plans developed in its first six years of existence, while thirty-seven medical care plans were put in operation in a similar period of time. Blue Cross enrolled 2,870,000 in its first seven years, while medical care plans enrolled 2,845,000 in a similar period of activity. In the past four years this growth has, as would be expected if the plans were successfully serving their purpose, mushroomed to astonishingly high figures. The latest available figures show a combined Blue Cross enrollment of 26,444,833, and in Medical Society sponsored Medical and Surgical Care plans approximately 6,500,000 are enrolled.

With this historical background in mind, it is well to consider some of the details of the organization of the various medical society sponsored plans. The three types are indemnity, service, or a combination of the two. Of the plans studied, thirty-eight are indemnity plans, thirty-nine combination service and indemnity, and eight service. In the development of the last year the new plans have shown about this same di-

vision. While the income limits of subscribers who are eligible to benefits without additional charges varies from \$1,500 for a single subscriber to \$5,000 for a family, the most frequent limits are \$2,000 for a single subscriber to \$3,000 for a family. With the present rapid increases in overall wages and salaries there has been some agitation for an increase in the income limits of subscribers, but until further actuarial experience is at hand, most plans have been content to let them remain at these established levels. The methods of organization of the plans has in the main followed four general patterns: plans organized under special enabling legislation as in Iowa, Michigan, and New Jersey; plans organized under the provisions of general statutes as California Physicians Service, Colorado Medical Service, Louisiana Physicians Service; plans underwritten by private insurance carriers as a Community Surgical Plan of Toledo, Ohio, Wisconsin Plan, South Dakota Injury-Illness Expense Plan; and finally those plans which attach a rider of cash indemnity benefits to the Blue Cross Hospital Service Certificate. Hospital Service Corporation of Alabama and Hospital Service of California are examples to this form. With this diversity of method of organization and operation, much valuable experience will be gained which will be extremely valuable in determining future patterns.

#### THE FUTURE

It appears to this writer that it is now time to examine into the future of these plans. Not long ago I heard a speaker, well known to this group, make the statement that the social planning group had set a time limit of four more years for all Voluntary Prepayment Medical Care plans to prove their inability to provide medical care and that then they would take over; and having taken over, they would establish Compulsory Health Insurance as the only successful method of distribution of medical care. With this threat in mind, I feel that we should not be complacently satisfied with the progress so far accomplished but should examine our plans to see how they can be improved and their coverage extended.

One important matter, it seems to me, is the extension of the coverage. The Council on Medical Service has recently prepared and distributed Special Brochure 3, entitled "Medical Care Prepayment Plan Development Through a Local Health Council." In this booklet suggestions are offered to guide the formation of local health Councils and to encourage Medical Society participation at the formative stage. When most plans were formed, their enrollment was concentrated in urban areas as here a wide spread of risk could be obtained quickly and growth would be rapid. Now that the plans have grown to a more mature state, enrollment must be increased by tapping new segments of the population. At the present time rural communities, the small towns, villages, and the farms seem to offer a fertile field for this endeavor. It is true that this segment of the population offers some new problems in the terms of adverse risks, difficulty of administration, etc., but these are only repetitions of the same challenges that were met in the urban enrollment. With the greater experience acquired, service can be improved and developed so that too great a segment of the population will be satisfied with their medical care plan to be misled into the uncertain future of Compulsory Medical Insurance.

Another important factor for the Medical Sponsored Plans is the adequate education of the individual medical society member whose Society sponsors a plan. He has willingly accepted the responsibility of rendering medical service to his patients who are enrolled in the plans, but has he taken the time to inform himself regarding the complete operation of the plan? From my personal observations I have the feeling that most plans could very profitably spend a considerable amount of time in this type of constructive education. I know the average patient, having seen that his physician's name appears among the list of participating physicians, is rather surprised to find that he frequently knows less about the plan than the patient does. Few crusades will ever develop from such a group of uninformed.

Still another important factor for the Medically Sponsored plans to consider is the frequent encouragement to extend the benefits of the plans beyond the demands of the subscribers or the ability of the earnings or reserves to afford. It seems to me appropriate to refer to an article by Dr. Frank G. Dickinson, Director, Bureau of Economic Research which appeared in the *Journal of the American Medical Association* February 15, 1947, and entitled "Fundamental Requirements of Insurance Applied to Voluntary Prepayment Medical Care Plans."

Under the subheadings of Laws of Mathematical Probability, Insurable Interest, Number of Independent Risks, Importance of the Risk, Uncertainty of Occurrence, Insurance Must Not Immeasurably Increase the Risk, and the Risk Must Be Measurable, he discusses enough sound insurance philosophy so that few trustees of plans, who read it understandingly will go far wrong in the administration of their plans.

After the coverage of the plans has been greatly increased, the medical participants have become thoroughly informed, and the administrators have become educated in insurance rules, the next important need for all plans is the education of the public. In the first poll of public opinion I think we were all greatly surprised at the small percentage of the population, picked at random, who had ever heard of Socialized medicine. Subsequent samplings have shown a remarkable increase in the percentage of people informed. The requests for source and factual material has exhausted several printings of the booklet, "Voluntary Health Insurance vs. Compulsory Health Insurance," which was compiled and issued by the staff of the Council on Medical Service. Public Relations Committees of the various State Medical Societies have done, and are continuing to do, a most remarkable service in educating the public in their own communities. A more concerted effort on a national scale might be very timely.

In looking into the future we might well foresee that in the coming political campaign of 1948 there is a great possibility that a major campaign speech will deal with

National Compulsory Health Insurance and advocate its adoption. If we, as physicians whose lives have been devoted to the medical care of our people, are interested in their future welfare, we must begin now to controvert such proposals and see that

the medical care plan of the future in this country is an American Plan, conceived by Americans, developed by Americans, and administered by Americans, that we may continue to be the healthiest nation on earth.

## *Time to Register*

1948 REGISTRATION BLANKS FOR ALL PHYSICIANS WERE  
MAILED IN EARLY DECEMBER.

IF YOU HAVE NOT RECEIVED YOUR BLANK, WRITE FOR ONE.

IF YOU HAVE RECEIVED YOUR BLANK, FILL IT ACCORDING  
TO THE INSTRUCTIONS AND MAIL IT TO THE LICENSING BOARD  
FOR THE HEALING ARTS, 420 SIXTH AVENUE, NORTH, NASHVILLE,  
TENNESSEE.



## AN ANALYSIS OF COMPARATIVE CONTRACT BENEFITS LYNN DOCTOR\*

*Dr. R. B. Wood, Chairman of the Committee on Prepaid Medical Care Plans, sent the four insurance proposals now being considered to Dr. Frank E. Smith, Director, Associated Medical Care Plans. Dr. Smith's reply to Dr. Wood is quoted in part as a preface to the following article:*

*"Enclosed is a comparative study of the contracts which you gave to me a short time ago. The study was drawn up by Mr. Lynn Doctor of Michigan Medical Service.*

*"Mr. Doctor is an underwriter and statistician for Michigan Medical Service and a thoroughly reliable person.*

*"I gave him no further information regarding the situation in Tennessee other than the sample contracts which were mailed to the doctors by Dr. Hardy. The analysis and conclusions presented in the enclosed study were developed from an examination of that material alone. I wanted Mr. Doctor to use only the material which had been mailed to the doctors as a basis for this comparison.*

*"If you believe this material has value, and I think it does, we would be very happy to duplicate it for you, and I would be willing to write a covering letter on A. M. C. P. letterhead, indicating that the material had been submitted to us for comparative analysis and that we had furnished this analysis to Tennessee Medical Service by request. Tennessee Medical Service is still listed as an Associate member of A. M. C. P., and the request would be perfectly legitimate.*

*"I wish you would find out for me how many copies of the original material were mailed out by Dr. Hardy and to whom it was sent. It might be a very wise thing for Tennessee Medical Service to send copies of this comparative study to the same doctors prior to any meeting of the House of Delegates.*

*"You will note that Mr. Doctor recommends some revisions in Tennessee Medical Service, which further illustrates the need for a meeting of the Board of Incorporators in order that they might prepare a stronger argument for presentation to the House of Delegates when this matter is called for a vote.*

*"I am terribly anxious that some plan be established in Tennessee, for we have just made arrangements for a very important conference with the United Mine Workers in Washington, D. C., for November 25. We hope to work out some kind of proposition for the participation of voluntary plans in providing health coverage for members of the UMW, many of whom live and work in Tennessee. We would need a plan in Tennessee if our negotiations with the UMW were successful, and we would like to see the plan established as quickly as possible."*

*Sincerely yours,*

FRANK E. SMITH, Director.

The true test of the value of any contract is the determination of how nearly such a contract comes to meeting the full cost of the services it covers. In this respect, the Tennessee Medical Service is far superior.

1. It covers the full cost of surgery for "under income" subscribers and dependents, utilizing the services of participating physicians.

2. A more complete Schedule of Benefits and a more liberal Schedule of Benefits is provided. Payments will be made for operations not listed on the schedule. Note that in North American states at the end of their schedule the *maximum payment for any unlisted operation is \$15*. There are many expensive operations not listed in their schedule. Tennessee Medical Service provides a method of determining fair fees for multiple procedures. Only Provident will pay for more than one operation performed during one period of disability. The maximum for all such operations, however, is \$150. John Marshall and North American pay only for the more expensive multiple procedure. The over-income subscriber may have to pay extra for his surgery, but Tennessee Medical Service comes nearer to paying the full bill than the commercial plans.

3. The subscriber is saved much time and trouble by having the doctor report directly to the company. The doctor is assured of his payment. Administration and claim processing is simplified by this procedure.

4. Contract provides surgical, obstetrical, X-ray, and anesthesia benefits. Few if any commercial contracts provide all these coverages. The three commercial contracts compared here do not fully provide it. Yet the subscriber is not fully protected without these benefits.

One of the purposes of a medical service plan is to bring prepaid medical care within the reach of the majority of people. They have succeeded in doing this by enrolling groups of five or more people. Commercial plans generally restrict their group coverage to groups of twenty-five or more people. Obviously, there are many organizations which do not employ this many people. For this reason commercial plans are in no position to make prepaid medical care available to any great percentage of the population. Rural group coverage is practically an impossibility under the twenty-five person group limitation.

Even limiting groups to five or more people makes it impossible to offer prepaid medical care to many. Again, many medical service plans have met the problem by enrolling individual subscribers on a com-

\*Michigan Medical Service.

munity enrollment basis. Commercial carriers are in no position to write business on such a basis—at least none have done so to date.

The above analysis should make it clear that worth-while benefits for the subscribers can only be secured through a medical service plan organized and sponsored by the medical profession.

Even though the Tennessee Medical Service contract in general provides more complete coverage than the commercial plans, it still is not without its shortcomings.

The coverage comparison of the Tennessee Medical Service contract with the commercial companies indicates that some features of the Tennessee contract are more limited than the commercial contracts.

The principal shortcoming perhaps is the nine-month waiting period for tonsillectomy. At this point it might be well to point out that the more restrictions that appear in a contract, the more complex and costly will be the administrative setup, both from a records and personal standpoint, that will be necessary to administer the plan. Verifying claims for tonsillectomies is made more difficult by this restriction. It will result in some decrease in utilization of tonsillectomy service and thereby effect a saving. There is no other justification for such a coverage limitation. It is bound to create a certain amount of ill-will among subscribers who find they are not covered after having a tonsillectomy.

Another shortcoming in the contract is that nonparticipating doctors receive only seventy-five per cent of the established fee for services performed on subscribers. It will be difficult to explain the advantages of a medical service contract over a commercial contract when a subscriber is reimbursed for services rendered by a nonparticipating physician and receives only seventy-five per cent of the established fee which will probably be less than the reimbursement from a commercial contract. This is especially true since some commercial contracts cover "anywhere in the world."

The Schedule of Benefits is more liberal and more complete than most commercial schedules. However, it is still unnecessarily restrictive at several points. One surgical procedure is listed under chest operations, complete thoracoplasty, for which the

fee is \$150. All other chest surgery is limited to \$50. There are other complicated chest procedures worth more than \$50. Pneumonectomy, pneumolysis, and lobectomy are three that generally receive a surgical fee considerably in excess of \$50.

All cutting operations on the ear, nose, and throat are limited to \$10 except for twelve listed procedures. This is rather stringent. Eye operations are subject to the same criticism.

Any realistic approach to providing coverage for surgery cannot be made by paying limited amounts for groups of unlisted procedures. Too often the over-income subscriber will find that his surgical coverage provides only a token payment. For under-income subscribers, it will be the participating doctor who suffers. The "faith" of both the doctor and subscriber will have to be strong to survive these financial setbacks.

The question may now arise as to whether the contract may be liberalized to eliminate these shortcomings and still provide coverage at reasonable subscription rates. The answer is yes. In fact, this coverage can be provided at lower rates than are currently contemplated. There are many medical service plans already doing it.

In fact, that medical service plans organized and sponsored by the medical profession in other states have met with success and popular approval is ample proof that the same job can be done in Tennessee.

#### RATE COMPARISON

##### *Tennessee Medical Service*

Individual Contract	\$1.00
Family Contract	2.50

No rates quoted for medical coverage

##### *John Marshall Insurance Company*

	<i>Surgical Only</i>	<i>Medical Only</i>
Individual Contract	\$0.70	\$0.30
Family Contract	1.90	.60

##### *North American Accident Insurance Company*

Individual Male	\$1.00
Individual Female	1.25
Family	3.00

##### *Provident Life and Accident Insurance Company*

	<i>Surgical Only</i>	<i>Medical Only</i>
Individual Contract	\$0.36-\$0.66	\$0.40-\$0.74
Family Contract	1.95- 2.25	1.55- 1.89

Actual rate depends on the per cent of females and colored employees in the employed group.



*Tennessee Medical Service*

Covers surgical services for the treatment of disease or injury, including fractures or dislocations in the hospital, home, or office.

Tonsillectomy or adenoidectomy not covered during first nine months of active membership.

Multiple procedures referred to Medical Advisory Committee for determination of proper fee.

Under family contract covers obstetrical services (all surgical conditions due to pregnancy), but only after the contract has been in force nine consecutive months.

Diagnostic X-ray benefits up to \$15 per disability if rendered within thirty days either prior to or following surgical services for disease or injury, including fractures or dislocations. Apparently no X-ray benefits in connection with pregnancy.

Covers administration of anesthesia by a doctor of medicine in connection with surgical or maternity services. Benefits limited to \$10 per disability.

Fees paid to participating doctor will be full payment for services rendered under the contract to members if subscriber is single with an annual income of \$2,000 or less, or married and with an annual salary of \$3,000 or less.

No coverage for plastic or beautifying operations.

No coverage for hospital, dental, nursing service, drugs, medicines, eyeglasses, blood donors, radium treatment, therapeutic X-ray, oxygen therapy, payment for professional consultations, or surgical assistants.

No coverage for injuries or diseases covered by Workman's Compensation Laws, services rendered in federal hospitals, or services covered by laws or regulations of any governmental body.

Subscriber will be reimbursed up to seventy-five per cent of the fee schedule for services performed by a doctor of medicine not participating in the program. This would include all doctors out of the state.

Dependents of the subscriber include the spouse of the subscriber and all unmarried children between the age of three months and eighteen years.

Subscriber receiving service from a participating physician presents his identification card to physician. Presumably physician reports directly to the company any services rendered. Company pays physician direct.

Not specified.

*John Marshall Insurance Company*

Covers operative and cutting procedures for treatment of disease or injury, including fractures or dislocations, rendered in the hospital, home, or office.

Immediate coverage.

If two or more operations are performed during the course of the same surgical procedure, only the more expensive operation will be paid.

Maternity benefits available to the certificate holder or dependent of certificate holder after contract has been in force nine consecutive months. Complications of pregnancy resulting in termination of pregnancy but not in childbirth covered immediately.

No X-ray benefits under surgical portion of contract.

Covers administration of anesthesia by a physician or other person, except salaried employee of hospital. Benefits limited to \$10 for major surgical cases, \$5 for minor surgical cases.

No such benefit.

No coverage for plastic or beautifying operations.

Although all these items are not specifically excluded, coverage is so worded that these services would not be covered.

No coverage.

Coverage anywhere.

Dependents include the spouse of the subscriber and all unmarried children between the age of three months and nineteen years.

Subscriber must send written notice of injury or sickness to company within twenty days of disability. Proof of loss must be furnished company within ninety days of date of loss.

Coverage available to groups of twenty-five people or more.

*The Medical*

If patient is confined to hospital for nonsurgical care, the company will pay the attending physician up to \$5 per day for the first three days plus \$3 per day from the fourth to thirtieth day and up to \$1.50 per day from the thirty-first to one hundred twentieth day of continuous confinement.



### *North American Accident Insurance Company*

Covers surgical expense incurred by reason of sickness or injury rendered in the hospital, home, or office.

Removal of tonsils or adenoids of a child under twelve years of age not covered until coverage for child has been in effect for six months.

If one or more operations are performed during one period of disability, only the more expensive procedure will be paid.

Maternity benefits (any condition due to pregnancy) available only after ten consecutive months of coverage. Must be covered under a family group policy to be eligible for benefits.

X-ray examinations, electrocardiogram, or metabolism test covered up to \$15 per disability if rendered in connection with surgical service for sickness or injury. Benefits do not apply in connection with maternity benefits.

No anesthesia coverage.

No such benefit.

Not specifically excluded but would not be covered.

Although all these items are not specifically excluded, coverage is so worded that these services would be excluded.

No coverage.

Coverage does not apply to any member of the family group for diseases or injury contracted or suffered outside the continental United States.

Dependents include the spouse of the subscriber and all unmarried children between the age of three months and eighteen years.

Same requirements as John Marshall Insurance Company.

Not specified.

### *Coverage Benefits*

In cases requiring no surgery will pay up to \$3 per treatment at home or \$2 per treatment at the hospital or doctor's office (limited to one treatment per day) not to exceed the total sum of \$150 per disability.

### *Provident Life and Accident Insurance Company*

Pays for surgery up to amount shown in surgical schedule. Surgery need not be performed in the hospital.

Literature incomplete but appears to grant immediate coverage.

Maximum paid for all operations performed during one period of disability is \$150.

Provides maternity benefits. Literature not complete as to specific coverage provided.

Literature incomplete. Does not appear to offer X-ray benefits.

Literature incomplete. Does not specify anesthesia benefits.

No such benefit.

Literature incomplete. Would not be covered.

Literature incomplete.

No coverage.

Literature incomplete.

Literature incomplete.

Literature incomplete. Probably the usual commercial company requirements.

Coverage available to groups of twenty-five people or more.

In nonsurgical cases covers medical treatments up to \$3 per day in the home or \$2 per day in the hospital or doctor's office (limited to one treatment per day. Benefits not to exceed \$100 in any twelve-month period.

## SCHEDULE OF BENEFITS COMPARISON

	<i>Tennessee Medical Service</i>	<i>John Marshall Insurance Company</i>	<i>North American Accident Ins. Co.</i>	<i>Provident Life and Accident Ins. Co.</i>
<i>Abdomen</i>				
Cutting into abdominal cavity for diagnosis or treatment of organs	\$100.00	\$100.00	\$100.00	\$100.00
Gastric resection	150.00			
Appendectomy	100.00	100.00	100.00	
Cholecystectomy	135.00			
<i>Abscess of the Brain</i>				
Requiring cutting into cranial cavity			150.00	
<i>Abscess</i>				
Requiring Hospital residence		40.00		25.00
Not requiring hospital residence		10.00		
Boils		10.00		
<i>Amputation</i>				
Thigh	100.00	90.00	75.00	75.00
Leg, entire foot, arm, forearm, hand	100.00	75.00	50.00	50.00
Fingers and toes, each	25.00	20.00	15.00	10.00
Fingers and toes, additional	10.00		(One or more)	
<i>Anesthesia</i>				
Major surgery	10.00	10.00	None	None
Minor Surgery	10.00	5.00		
<i>Blood Transfusions</i>				
Initial	Not Listed	10.00	5.00 (Ea.)	25.00
Subservent	Not Listed	5.00	25.00 (Max.)	(Incl. cost of plasma)
<i>Brain Tumor</i>				
Cutting into cranial cavity		150.00		
<i>Breast</i>				
Simple amputation	50.00	50.00	50.00	
Radical amputation	100.00	125.00	100.00	100.00
Removal of cysts or benign tumors	20.00		20.00	
Abscess deep (furuncle excepted)	25.00	40.00	20.00	25.00
<i>Chest</i>				
Thoracoplasty or removal of portion of lung	150.00	150.00	150.00	150.00
Other cutting into thoracic cavity	50.00	40.00	40.00	40.00
Initial induction artificial pneumothorax	25.00	25.00	20.00	25.00
Refills	5.00	5.00	5.00	
<i>Dislocation</i>				
Hip	50.00	40.00	35.00	35.00
Knee	35.00	40.00	35.00	35.00
Shoulder, elbow	35.00	30.00	30.00	25.00
Ankle		30.00	30.00	25.00
Wrist	35.00	10.00	15.00	10.00
Lower jaw	15.00	15.00	15.00	15.00
<i>Ear, Nose, Throat</i>				
Radical Mastoidectomy	125.00	125.00		
Mastoidectomy—one side	75.00	100.00	75.00	75.00
Mastoidectomy—bilateral	125.00	150.00	100.00	100.00
Tonsillectomy				
Under twelve years	25.00	30.00	25.00	25.00
Over twelve years	35.00	30.00	25.00	25.00
Sinus operation	100.00	100.00	25.00	50.00
Sinus operation—antra meatal	35.00			
Submucous resection	50.00	50.00		50.00
Sinus operation—bilateral	65.00			
Bronchoscopy	25.00			
Removal of foreign body from bronchies	75.00	40.00		100.00
Tracheotomy	100.00	35.00		50.00
Caldwell-Luc operation	50.00			65.00
Other cutting operation	10.00	10.00	20.00	10.00
<i>Excision</i>				
Shoulder or hip joint	150.00	150.00	100.00	100.00
Knee	150.00	100.00	75.00	75.00
Elbow, wrist, ankle	100.00	100.00	50.00	50.00
<i>Eye</i>				
Cataract—removal	125.00	....	50.00	75.00

	<i>Tennessee Medical Service</i>	<i>John Marshall Insurance Company</i>	<i>North American Accident Ins. Co.</i>	<i>Provident Life and Accident Ins. Co.</i>
Cataract—needling	\$ 25.00			\$ 25.00
Other cutting operation into eyeball— cornea or sclera	25.00	\$ 50.00	\$ 50.00	50.00
Removal of eyeball	50.00	75.00	35.00	50.00
Filtration for glaucoma	100.00			
Removal eyeball implant	65.00			
Iridectomy	50.00			75.00
Other cutting on eyeball or muscles	20.00	20.00	20.00	20.00
Operation on extrensic muscle advance ment	75.00			
Recision	35.00			
Combined	85.00			
Pterygium	20.00			
Eyelids—ptosis	30.00			35.00
Chalazion	\$5.00- 10.00			
<i>Fracture</i>				
Thigh or hip	100.00	75.00	50.00	75.00
Collar bone	35.00	35.00		37.50
Upper arm	60.00	50.00	50.00	37.50
Ankle	60.00	35.00	15.00	22.50
Wrist	35.00	35.00	15.00	22.50
<i>Genito-Urinary Tract</i>				
Removal of kidney	150.00	150.00	100.00	150.00
Operation other than removal	100.00	125.00		100.00
Stricture of urethra				
Endoscopic means	25.00		50.00	
Open operation	50.00	75.00		50.00
Intra-urethral cutting operation	25.00	50.00	25.00	25.00
Removal of stone or tumor from bladder				
Open operation	50.00	100.00	75.00	100.00
Endoscopic means	35.00	25.00	25.00	25.00
Circumcision	15.00			15.00
Removal entire prostate	100.00	150.00	75.00	150.00
Removal of part of prostate				
By endoscopic means	40.00	40.00	40.00	40.00
By cutting operation	40.00	100.00	50.00	75.00
Cystotomy for bladder tumor	50.00			
Varicocele cutting operation	25.00	50.00	25.00	25.00
Hydrocele—excision or incision	25.00	25.00	25.00	25.00
Orchidectomy or epididymectomy	50.00	50.00		35.00
Complete removal uterus, tubes, and ovaries	25.00	150.00	75.00	150.00
Dilation and curettage	25.00	30.00		25.00
Removal cervix polypi and cysts, Polyps cysts	25.00	25.00		
<i>Goitre</i>		150.00	75.00	150.00
Thyroidectomy	125.00			
Ligation of thyroid arteries		50.00	40.00	50.00
One or more at one operation	25.00	100.00	40.00	75.00
Two or more stage operation	50.00			
<i>Hydrophobia</i>			40.00	
Pasteur treatment				
<i>Hernia</i>		75.00	50.00	75.00
Single hernia	75.00	125.00	75.00	75.00
More than one	100.00			
<i>Joint</i>		25.00	25.00	25.00
Incision and drainage	25.00			
Plastic work on joints	\$50.00- 125.00			
Lengthening tendons, single tenotomy	25.00	35.00	25.00	25.00
Suturing tendons	25.00			
Tendon transplant	\$50.00- 100.00			
<i>Maternity</i>				
Prenatal and postnatal	15.00	50.00		50.00
Delivery	40.00	100.00		100.00
Cesarean	100.00			
Abdominal operation for extra uterine pregnancy		125.00		100.00
Miscarriage		25.00		25.00



	<i>Tennessee</i>	<i>John</i>	<i>North</i>	<i>Provident</i>
	<i>Medical</i>	<i>Marshall</i>	<i>American</i>	<i>Life and</i>
	<i>Service</i>	<i>Insurance</i>	<i>Accident</i>	<i>Accident</i>
		<i>Company</i>	<i>Ins. Co.</i>	<i>Ins. Co.</i>
<i>Paracentesis</i>				
Abdomen, chest, bladder	\$ 10.00	\$ 10.00	\$ 15.00	\$ 10.00
Hydrocele, joint or spine	10.00	10.00	10.00	10.00
Eardrum	5.00	10.00	10.00	10.00
<i>Rectum</i>				
Abdomino-perineal resection	150.00			
Radical cure hemorrhoids by cutting		50.00		25.00
operation or injection	40.00	25.00		
External hemorrhoids	10.00	50.00	25.00	25.00
Protopsisl rectum		25.00		10.00
Fissure		50.00	25.00	25.00
Fistula in ano				
<i>Skull</i>		150.00	150.00	150.00
Cutting into cranial cavity		25.00		
Drill tape		75.00		
Trephining				
<i>Spine or Spinal Cord</i>		150.00	150.00	150.00
Removal of portion of vertebra		50.00		50.00
Removal of part or all of coccyx			30.00	
Herniated intervertebral disc		50.00		
Vertebral process				
Teeth (extraction of impacted teeth)				25.00
Requiring hospital residence				10.00
Not requiring hospital residence				
<i>Tumors</i>				
Malignant skin tumor (excluding lip)	15.00	25.00	20.00	25.00
Malignant tumor of lip	50.00			
Malignant tumor requiring resection of				
head and neck	125.00			
Malignancy of tongue	50.00	10.00- 25.00		10.00- 25.00
Benign tumor, one or more	10.00			
Malignant tumors, except face, lip, or		100.00	50.00	100.00
skin			150.00	
Brain tumor				
Malignant tumor of abdomen or both			100.00	
breasts				
<i>Varicose Veins</i>				
Cutting or injection treatment				
One leg	25.00	40.00	25.00	40.00
Two legs	50.00	40.00	25.00	40.00
<i>Any Cutting Operation Not Listed</i>				
Maximum payment	Determined by Company	Determined by Company	15.00	Determined by Company

Although the above schedule does not contain all the operations listed in each of the companies' schedules, it does contain most of them. There are enough to give a good comparison of comparative fees.

*North American Accident Insurance  
Company*

*Ratio to Premiums*

	<i>Premiums Earned</i>	<i>Losses Paid</i>	<i>Expenses Incurred To Writing</i>	<i>Combined Losses and Expenses</i>
1946	\$6,988,311	43.3	50.9	94.2
1945	6,243,903	38.9	51.8	90.7
1944	5,631,453	36.7	53.7	90.4
1943	5,249,643	34.5	60.7	95.2
1942	5,069,758	35.5	60.2	95.7
1941	4,949,540	37.1	58.1	95.2
1940	4,630,646	39.4	58.0	97.4

ARGUS CHART

The following financial information published by the Argus Chart for 1947, a publication of the National Underwriter Company, is taken from information provided by the financial statements of the insurance companies themselves.

*Provident Life and Accident Insurance  
Company*

1946	\$15,054,854	68.1	23.3	91.4
1945	12,105,696	65.3	24.0	89.3
1944	10,687,453	64.8	23.2	88.0
1943	9,641,345	61.9	25.3	87.2
1942	9,421,086	62.5	25.6	88.1

*Accident and Health Mutual Companies*

	1946	1945
Net premiums written	\$115,693,101	\$ 94,724,295
Losses paid, including adjusting expenses	55,225,374	44,408,326
Ratio losses paid to net premium written	47.7%	46.9%

*Hospitalization Companies and Associations*

	1946	1945
Net premiums written	\$194,607,070	\$144,727,781
Losses paid, including adjusting expenses	156,505,370	116,207,133
Ratio of losses paid to net premium written	80.4%	80.3%

Note that the statement directly above for Hospitalization Companies and Associations indicates that these companies have a ratio of losses paid to premium written of 80.4 per cent for 1946 and 80.3 per cent for 1945. In other words, these companies returned in benefits to subscribers slightly over eighty per cent of all the money paid in to these organizations. Hospitalization Companies and Associations include the various Blue Cross hospital service plans in the country. These plans are organized on a truly nonprofit basis.

Although a complete and separate listing of the State Medical Society sponsored medical service plans in the country is not included in the Argus Chart, these plans are also operated on a nonprofit basis. A comparison of their loss ratios would very likely indicate that they too return about eighty per cent of their total income to the subscriber as service benefits.

How does this eighty per cent return compare with the policy benefits of commercial accident and health companies? Note the table above, Accident and Health Mutual Companies. These companies write accident and health coverage. Many or most are also writing hospital and surgical coverage. Note that all these companies average only a 47.7 return (for 1946) in benefits to the policyholders.

The North American Accident Insurance Company and the Provident Life and Accident Insurance Company are two of these Mutual Accident and Health Companies.

The two tables above show their premium earnings and loss ratios by year. Note that North American has a loss ratio varying from thirty-four per cent to forty-three per cent. How can any policyholder expect worth-while benefits when this company uses only thirty-four per cent to forty-three per cent of the money paid in to pay for policyholders' claims? Provident Life does somewhat better. Losses paid vary from sixty-one per cent to sixty-eight per cent. This is still far short of the eighty per cent average for nonprofit plans.

Compare the column entitled Expenses Incurred to Writing. From fifty per cent to sixty per cent of North America's income is spent just in writing business. Provident spends only twenty-three per cent to twenty-five per cent. This still compares very unfavorably with Blue Cross plans and Medical Society sponsored Medical Service plans. These nonprofit organizations have administrative costs (losses incurred to writing) that average between ten per cent and fifteen per cent.

There is one main reason for the high cost of administration or Losses Incurred to Writing of commercial insurance companies. That is because these companies pay commissions to their salesmen. Salesmen's commissions vary from ten per cent to twenty-five per cent of the policy premium, depending on the type of coverage sold. Nonprofit plans hire salesmen in a fixed salary basis. This effects a large saving.

Administration of nonprofit plans are simplified by the agreements these plans have with doctors and hospitals to report claims directly to the plan rather than requiring the policyholder to prepare and report his own claim.

State and county medical society plans throughout the country have organized medical service plans to provide the people in their area liberal medical and surgical benefits at a reasonable cost. Obviously this cannot be done through a commercially sponsored plan which uses only a small per cent of the premium in paying contract benefits.

## GEORGIA AND ITS HEALTH PROGRAM\*

M. E. THOMPSON, Governor, Atlanta, Georgia

No state can perform a more useful function for its citizens than to wage relentless and unceasing war upon preventable diseases.

The health of the average citizen is his most priceless possession, not only from the viewpoint of personal happiness, but from an economic viewpoint as well. The average citizen is dependent upon his earnings for a livelihood. When he is ill, those earnings are reduced or stopped altogether. The necessity of keeping people well has a social and an economic implication, as well as the more important one involving personal welfare.

The function of the state in relationship to the health of the people obviously is twofold. It is a ridiculous oversimplification to assert that the state—any state, whether Georgia or some other—has discharged that obligation solely by maintaining adequate public health service. I do not minimize the importance of this effort. In Georgia, we think it important enough to have increased our health expenditures to a record-breaking three million six hundred forty thousand dollars last year.

But the state likewise must assume responsibility to a very considerable extent for seeing that physicians, dentists, nurses, and technicians are trained, that hospital facilities are made available, and that there is such distribution of health services that all citizens will have available medical attention.

I cited the figures on Georgia's expenditures for public health during the last fiscal year because that represents the measure of the state's willingness to provide a sound program. It is not the measure of the efficiency of the program. It is not the measure of the needs. It is the measure of how much can be provided and how much can be effectively spent. We are spending as much in Georgia as we can on a basis of our resources. We are also spending

as much as we can spend with the personnel that can be obtained. I am informed that not all of the money made available can be expended because trained personnel is scarce. The measure of the health program is its accomplishment. The report of our Department of Public Health interested me very greatly when it came to my desk. I turned first to the record on typhoid fever.

Typhoid has been one of Georgia's great plagues in past years. Because of it, I never knew my father, who died of typhoid when I was a baby two years old. It is a disease that we can prevent almost entirely. It is a disease that is disappearing in Georgia as a result of an effective public health program.

Last year Georgia had only eighty-one cases and only eleven deaths from typhoid. I turned to the record of Jenkins County where I was a child and where my father died. There was not a single case there in 1946.

Georgia pioneered in the South in the war on diphtheria. When I was a child, it was a nightmare of mother's. One of my infant brothers died of diphtheria. Last year, because of Georgia's free immunization program, there were only three hundred seventy-one cases of diphtheria in Georgia, where once there had been thousands. There were only twenty-five deaths where once there had been hundreds.

Again I turn to Jenkins County. There was one case there, and the patient lived because of the availability of antitoxin. I cite those two diseases because for me they have a personal application. There is no need for a family to lose its father by typhoid today. There is no need for a small child to die of diphtheria today. We can—and to a very great extent we have—eliminated these plagues in Georgia.

A comprehensive public health program has eliminated almost entirely two ills that were commonplace in the South of thirty years ago. There are physicians in Georgia today who have never come into contact in their practice with a case of hookworm.

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\*Read before the Southeastern Regional Conference and Medical Service, Atlanta, Georgia, October 8, 1947.



Pellagra, a deficiency malady that was commonplace in the South and that filled our institutions some years ago, has been almost entirely wiped out.

I do not think that public health activities require any defense. I think that the obligation of society, acting through its government, which is about the only way that I know that the people can act collectively, unless we wish to undertake some vague communistic or fascist experiment, has the obligation of protecting citizens against communicable and deficiency diseases. But if it needed any defense, it should be obvious to anyone that the maintenance of pellagra victims should be in institutions or paupers' homes, and that it is cheaper to save the lives of citizens and let them support their families than to undertake the support of the families.

Georgia is sold on its public health program. This year we will spend three times as much as we spent in 1945 on public health, exclusive of the operations at Battey Hospital. At that institution we are spending one million five hundred forty thousand dollars, almost double the figures of the year before, which was seven hundred ninety thousand dollars. Altogether, in the last fiscal year Georgia spent two million one hundred fifty thousand dollars more to protect the health of its citizens than ever before.

While it is gratifying to observe the reduction in the incidence of communicable disease in Georgia, with a result that the death rate in this state now is below the national average, there are problems of health that present a sharp challenge to our society and to the public working through state government.

It is essential that we train more physicians, dentists, nurses, sanitation experts, and technicians.

Today in Georgia we cannot carry out fully the health program that Georgia wants, needs, and is prepared to pay for because we cannot obtain the necessary personnel.

That condition finds a parallel in the acute shortage of physicians in the state, and in the very grave need for medical and

hospital facilities in the rural areas, especially.

In 1921, Georgia had three thousand four hundred six practicing physicians, or one for every eight hundred fifty persons in the state. Twenty-five years later, in 1946, the number of physicians had dropped to two thousand seven hundred thirty, or only one physician for every one thousand one hundred forty-five.

The need for dental care is even more serious in Georgia. In the United States, the average dentist must care for one thousand eight hundred sixty-five persons; in Georgia, he is expected to care for three thousand seven hundred ninety-four.

A desirable condition, when aspects of specialization is considered, would call for an average of one physician to every seven hundred fifty persons in Georgia. That would take care of rural needs adequately. That would mean, roughly, that Georgia would have four thousand one hundred physicians. The shortage of one thousand four hundred physicians means two things: that people feel an acute and growing shortage of medical care and that the medical schools and the states themselves are falling down, in one degree or another, upon the job of providing the training.

In planning an expanded training program for additional physicians, dentists, nurses, and other technicians needed for public health and medical services for our people we must not lower standards. It is likely that standards should even be raised, but something must be done, and in the near future, to alleviate the terrible conditions now existing by shortages of personnel in these professions.

Every doctor, dentist, and nurse that I know is already overworked, and they need additional trained people to lighten their loads, and at the same time give to the people the services which they have every right to expect.

The same thing is true about our state's need for dentists. We need approximately twice as many as we now have, and we need more of them in small towns.

More and better hospital facilities are required. Georgia's ratio of usable beds in hospitals to population is scarcely more

than half of the national average, and the national average is deplorably low. There are approximately forty thousand hospital beds in Georgia, which means a possible daily census of patients not exceeding thirty-four thousand under normal conditions. We need facilities for not less than forty-two thousand actual patients, which means an over-all needed increase of approximately twenty thousand available beds. And we will need those, most of all, first, in areas that serve rural needs, and, second, in expanding heavily industrialized urban areas. Only the medium-sized towns of Georgia today have anything that approaches adequate facilities.

I have summarized certain needs. In the public health field, I have told you what the state government can do and is doing. In the end, a great part of the problem must be solved by the schools.

The state is ready, has been ready, and always will be ready, to provide training for physicians. The state cannot, however, solve the problem alone. In a great part, the solution must be found by the members of the profession. It is their responsibility to see that we have an adequate number of physicians trained to replace those who are retiring.

In part it is a problem for communities, it must be recognized. The life of a general

practitioner in some rural areas presents exceptional problems—even the problem of making a living. We must find some way to attract to those areas the skilled men that are needed.

The cooperation of all must be had in order to protect the health of all. The state must stand ready—and in Georgia the state is ready—to finance an adequate program of public health. The schools must assist, because hygiene is a matter of education and practice and training. The communities must assist in promoting the erection of new facilities and, in the rural areas, in assuring the physician of a decent living and an opportunity for satisfying his reasonable ambitions. The colleges and universities must cooperate in providing the state and the nation with enough practitioners of the art of healing to carry the burden of attending the needs of our people. The medical profession must cooperate with state and community and schools and universities and the lay public, especially in the coordination of public health activities with other essential phases of the prevention and cure of illness.

No single group can carry the burden alone. All must help. The people recognize the need. Their state government, in every state that I know of, is ready to assist. Let us plan wisely and go forward.

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W. M. HARDY, M.D., Editor and Secretary

DECEMBER, 1947

## EDITORIAL

### CHRISTMAS GREETINGS

It may be "the same old story," but it does give us a great deal of pleasure to send season's greetings to every member of the Tennessee State Medical Association. The closing year has brought its changes. The coming year will have its challenge. May each of you have the health, strength, and courage to successfully meet whatever the future brings.

W. M. HARDY, M.D.,  
V. O. FOSTER,  
WILLARD BATEY,  
BETTYE KIMBROUGH.

### ANNUAL MEETINGS

Most of our component county societies have their Annual Meetings in December or January. New officers will be elected, plans for the coming year will be made, and the work of the closing year will be reviewed.

Membership dues for the local program and for the state will be payable. Your County Secretary will be sending reports containing the names of the newly elected officers and remittances for membership dues. All of this will mean work for the Secretary. Why not make it easy for him by enabling him to send in one COMPLETE report? Sometimes secretaries must use half a dozen report blanks to cover all the members of the society. If he does not

have to write us so often, he can give more time to planning better meetings and improving the efficiency of the County Society.

### OFFICIAL CALL

#### *Special Meeting of the House of Delegates of the Tennessee State Medical Association*

All the members of the House of Delegates are hereby called to meet in a special session to be held at the Hermitage Hotel, Nashville, Tennessee, on Sunday, January 18, 1948.

The purpose of this meeting is to consider "Prepayment Medical Care Plans."

This call is made by President Franklin Bogart upon request by a sufficient number of members of the House as provided in the constitution.

A letter to this effect has been sent to:

1. Each officer of the Association.
2. Each delegate and alternate elected by component societies.
3. Each past-president of the Association.

In addition to the call, the letters contained the same material sent to each member of the Tennessee State Medical Association on October 4, 1947—namely, a copy of the proposed prepayment medical plan of the Tennessee Medical Service Corporation and policies issued by three commercial carriers of health insurance. This letter of October 4, as explained at that time, was in compliance with instructions by the House of Delegates.

Attention was also called to this issue of the JOURNAL which contains two articles discussing prepayment medical care plans. The first of these articles is by Dr. James R. McVay, Chairman of the Council on Medical Service of the American Medical Association. The second article was an analysis of the four policies contained in the letter of October 4. This analysis is made by Mr. Lynn Doctor, who has been working with the Michigan Medical Service for a number of years.

Those who take the time to study these four policies and Mr. Doctor's analysis will notice that the plan offered by the Tennessee Medical Service Corporation is criticised in several respects. Some of these criti-



cisms may be justified; others may be a matter of opinion.

In selecting the policies of the three insurance companies, we made no claim to have secured "the best." Again, that would be a matter of opinion. The companies are well established and capable of meeting all obligations. This same statement would apply to policies of a number of other companies. No effort was made to favor any old-line insurance company in this selection.

When the Wisconsin plan was established, twenty-six companies issued policies acceptable to the Wisconsin State Medical Association, and each of the twenty-six wrote business bearing the seal of approval of the Wisconsin Association. It is therefore evident that the literature sent each member of the Association in October and each member of the House of Delegates in December is not the last and only word on the question of "Prepayment Medical Care."

The component societies have been requested to consider the plans offered, and the members of the House of Delegates have been urged to talk over these plans with the members of their societies. Only in this way will a delegate be able to reflect the opinion of his society.

In closing it will probably not be out of place to repeat a story published in this JOURNAL several years ago. A lawyer desired to submit evidence to the court that his client was insane. The evidence was to the effect that the client thought he knew what an insurance policy meant. We believe that the members of the Association would be more benefited by a careful study of Mr. Doctor's analysis of the four plans than by reading the policies themselves.

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#### WHY IS IT SO?

It appears to be true that very few of our present-day graduates in medicine are at all willing to locate for the practice of their profession outside of our cities or relatively large centers of population. Even young men who acknowledge themselves to be as poor as the proverbial church mouse are disinclined or positively refuse to consider locations in the country, though they may there get into remunerative work at once and may soon make secure a larger

income than they can hope to enjoy within a much longer period of time in a town or city.

The writer has been approached within the recent past by at least a dozen young men seeking information concerning desirable locations. When we have suggested country locations, these interviews, with a single exception, have come to an end as soon as we would permit them to end. Some of the young gentlemen have refused to give definite reasons for their unwillingness to start in country practice, but most of them have very frankly stated their reasons after a little urging, though in no case has one explained fully just why he has come to assume his attitude about the matter. One or two frankly stated that their objection to country practice is that it involves too much hard work. These two we have put down as preordained failures, no matter where they go. One will say that he dreads isolation; another, that he fears he will "get into a rut" and will fail to keep up with the progress of scientific medicine; and various other reasons are offered, some of which are sensible and some of which are silly.

The one outstanding objection offered by these young doctors against the country location, however, has been this: "I want to do surgery, and I can't do it in the country."

Just why is it that practically all of our graduates in medicine are so determinedly bent upon surgery and so positively disinclined to enter upon the practice of general medicine? Is it because our courses of study in medical schools are so thoroughly overbalanced on the surgery-teaching side? Is it because they are being taught that there is nothing positive or curative except applied surgery? Is it because we have teachers of surgery who can inspire young men and teachers of medicine who cannot?

There was a time when Johns Hopkins meant Osler, Pennsylvania meant Pepper and Wood, New York meant Flint, and when the outstanding figure in every medical faculty of school or city was a man who practiced medicine and did little or no surgery. Has that time gone forever, and is it a fact that the specialist and the surgeon who does not or pretends that he

does not do any general practice will always hereafter be the individual from whom the medical student and young physician will draw inspiration and receive impressions which will determine the course of his professional life?

Our institutions, aside from medical schools, are practically all under the direction of surgeons. The chief of staff in every hospital is a surgeon, even though a large part of the hospital is filled with beds for medical cases. The truth is that it is getting hard for any patient not surgical to get decent attention in most hospitals. The staff, the interns, the nurses, and even the orderlies want to come into contact, it seems, only with surgical cases.

The surgical clinic is overrun with visitors; the medical clinic is deserted except as attendance is enforced. The surgical side of the hospital is stressed by all the associations and "colleges" and organizations which have taken upon themselves the task of "regulating" and classifying hospitals. Every little town is building or getting ready to build a hospital so that surgery can be done at home.

Are our teachers of medicine incapable, impractical, unable to demonstrate the value of medicine? Are our internists and general practitioners failures? Is there nothing worth while in medicine except through surgery?

Oh, for an Osler or two, if two there could be, to demonstrate the possibilities for real service and for real scientific and beneficial work in the field of general medicine!—*Journal Tennessee State Medical Association, August, 1919.*

## SECRETARY'S LETTER

AMERICAN MEDICAL ASSOCIATION  
535 North Dearborn Street, Chicago 10, Illinois  
GEORGE F. LULL, M.D., Secretary and General Manager

### A. M. A. TO RECEIVE PHARMACEUTICAL AWARD

The American Pharmaceutical Manufacturers Association's 1947 scientific award will be made to the American Medical Association in recognition of its fundamental contributions to public health in the field of medical research. The award, voted by

a committee of sixteen eminent scientists, will be presented at a ceremony in the Waldorf-Astoria in New York on Tuesday, December 16.

This scientific award was made to the Mayo Foundation for Medical Education and Research in 1946; to the Rockefeller Institute for Medical Research in 1945; to the National Research Council in 1944; and to Sir Alexander Fleming and Sir Howard W. Florey of London in 1943 for their penicillin discoveries.

Charles Wesley Dunn, New York, general counsel for the pharmaceutical manufacturers, says that the December 16 ceremony, which will consist of morning, afternoon, and evening sessions, will "be one of the most important scientific events in the pharmaceutical year."

Mr. Dunn stated that while the program has not yet been completed, it will be based on "a series of authoritative papers which record new basic progress in the research of drug therapy, and the award will be made at a climactic evening dinner session."

More than seven hundred distinguished guests in the medical and public health fields are expected to attend.

### DR. BAUER RECEIVES HEALTH EDUCATION AWARD

Dr. W. W. Bauer, Director of the A. M. A. Bureau of Health Education, has been awarded the Elisabeth Severance Prentiss National Award in Health Education, given each year by the Cleveland Health Museum to the person who has made the most outstanding contribution to health education.

The presentation was made Monday, November 17, at the annual civic luncheon in Cleveland of the Cleveland Health Museum. The ceremony was broadcast over the Mutual network.

The Prentiss Award was established in 1943 in memory of the Museum's first foundation benefactor to stimulate health education, and recipients are selected by a national committee.

Since the Cleveland Health Museum was opened in 1940, Dr. Bauer and his associates have personally answered 3,500 questions dropped in the Museum question box by visitors seeking health information.

### DISCUSS VETERANS' PROBLEMS

Representatives of forty-one state medical societies, the American Medical Association, and the Veterans Administration met at the A. M. A. Chicago headquarters Thursday, November 6, to discuss the "V. A. Home Town Medical Care Program."

The conference heard a frank discussion of the many problems arising from this program.

A committee, appointed for the purpose of summarizing conclusions, met immediately after the conference with the A. M. A. Veterans Committee. The two groups agreed upon certain basic principles which the Veterans Committee of the A. M. A. could use in presenting a united front for the state programs. The A. M. A. Veterans Committee will also act as a clearinghouse for problems on policies arising in the various states and will, if necessary, carry the problems directly to the Veterans Administration in Washington.

## DEATHS

WILLIAM KENNETH EDWARDS, M.D.

William Kenneth Edwards, M.D., Centerville; Vanderbilt University School of Medicine, Nashville, 1913; aged fifty-seven; died suddenly November 16, 1947.

JAMES I. HUGGINS, M.D.

James I. Huggins, M.D., Bowling Green, Kentucky, formerly of White Pine, Tennessee; Vanderbilt University School of Medicine, Nashville, 1901; aged seventy-five; died November 17, 1947.

## RESOLUTIONS

Dr. Henry Clay Long, a native of Marion County, Tennessee, was educated at Pryor Institute and at Vanderbilt University, being graduated in 1914. He trained at Bellevue and Allied Hospitals from 1914 to 1918, inclusive, and took frequent post-graduate courses throughout his medical career. Coming to Knoxville, he began the

practice of Internal Medicine, and was Knoxville's first physician to be certified by the Board of Internal Medicine.

Dr. Long's outstanding qualities were many, chief of which were his steadfastness to ideals of religion, to honesty in all things, and thoroughness in his job. History of a disease to him was equally important to its diagnosis and treatment. He maintained interest in his profession, and his zeal and willingness, as well as his capacity for carrying more than his share, was not dimmed by the passage of time. He faithfully attended his county medical society, was active on each hospital staff, was present yearly at the meetings of the College of Physicians, of which he was a member.

His outwardly even temperament, his impartial advice, his kindly wisdom will be missed.

And now, whereas death has removed him from our midst, be it resolved by our membership and by the staff of our respective hospitals, that this token of regret be spread on the minutes of our proceedings, a copy furnished the state *Journal*, and a copy to the bereaved family.

J. B. NEIL, M.D.,

DAN R. THOMAS, M.D.,

R. B. WOOD, M.D.

## NEWS NOTES AND COMMENTS

The new officers for Robertson County Medical Society for 1948 are Dr. A. R. Kempf, President; Dr. W. S. Rude, Vice-President; Dr. John S. Freeman, Secretary-Treasurer.

Crawford W. Adams, M.D., announces the opening of his offices at 602-608 Gallatin Road, Nashville, Tennessee. Practice limited to Internal Medicine.

Manuscript Service, Inc., has been organized to facilitate publication of clinical and experimental research, case records, and historical reviews by providing editorial assistance for authors who do not have adequate library facilities available, those who do not have sufficient contact



with the publishing field, and those whose time is limited. The service is directed by an editor with many years of experience in the preparation and publication of papers and books concerned with clinical diagnosis and therapy, surgery, nutrition, psychiatry, mental hygiene, and allied sciences.

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The address is Manuscript Service, Inc., 6432 Cass Avenue, Detroit 2, Michigan.

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#### THE NATIONAL JEWISH HOSPITAL AT DENVER

The National Jewish Hospital at Denver announces a program of fellowships for postgraduate study in tuberculosis and allied diseases. Fellows will be appointed for three-month, six-month, or one-year periods.

Information regarding the fellowship can be obtained by writing to Dr. Edgar Mayer, Chairman, National Medical Advisory Board, National Jewish Hospital at Denver, 470 Park Avenue, New York, New York, or to Dr. Allan Hurst, Medical Director, National Jewish Hospital at Denver, 3800 East Colfax Avenue, Denver 6, Colorado.

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#### MICHIGAN POSTGRADUATE CLINICAL INSTITUTE

The Second Annual Michigan Postgraduate Clinical Institute will be held at the Book-Cadillac Hotel, Detroit, Wednesday, Thursday, and Friday, March 10, 11, and 12, 1948. Forty-nine outstanding clinicians and lecturers will present a concentrated three-day postgraduate course covering the newest developments in medicine, surgery, obstetrics, pediatrics, dermatology, ophthalmology, and general practice.

Two evening sessions will be held, the Wednesday night presentation being a "question box," and the Thursday evening program being a panel discussion on "First Aid to the Acutely Injured Patient."

All members of the American Medical Association and of the Canadian Medical

Association are cordially invited to attend the Michigan Postgraduate Clinical Institute. No registration fee.

### WOMAN'S AUXILIARY

#### KNOX COUNTY

The Woman's Auxiliary to the Knoxville Academy of Medicine announced a splendid program of work at its October meeting over which Mrs. Park Nicely, the President, presided. Plans are already in progress for sponsorship of a "Community Day," which will acquaint other clubs of the community with the many and varied problems and interests which concern both the medical profession and the public at large. During the year the Auxiliary will also conduct a school of instruction and an essay contest on Nursing Education in the Local High Schools, with a prize to be presented to the winner.

The Knox County Auxiliary is planning to take active part in the nurse recruitment program in Knoxville and surrounding communities. Visitors were present at this October meeting from Lenoir City, Rutledge, and Maryville. At the conclusion of the meeting a tea was given in honor of new members.

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#### SHELBY COUNTY

The Shelby County Auxiliary saw its fall program off to a flying start at its October meeting under the capable leadership of their President, Mrs. Harold Boyd. Dr. L. M. Graves, head of the Memphis and Shelby County Health Department, spoke on "Public Health Nursing." A high point of the program was the introduction of Mrs. Robert Patterson of Knoxville, the State President, whose talk, stressing the importance of each Auxiliary in its public relations work, was heard with keenest interest by the membership. Mrs. Elisha Farrow, State Recording Secretary, accompanied Mrs. Patterson to Memphis and was present at the meeting.

Over two hundred fifty members of the Auxiliary and their husbands attended the lawn picnic given by the Auxiliary in October at the home of Dr. and Mrs. W. H. Gragg.

Great appreciation is expressed on behalf of each Auxiliary for the interest and co-operation given them by Mrs. Robert Patterson of Knoxville, the State Auxiliary President. Mrs. Patterson has visited each organization this fall, and her addresses have been informative and inspirational to every member who heard her. She has stressed to each group the great importance of the nurse recruitment program and all public relations work. With Mrs. Patterson's unflagging interest in every phase of Auxiliary work as an example, our Auxiliaries should go far this year in attaining the objective she has given us—to help the doctors of the state in every possible way in their efforts to inform the public as to medical problems and plans for prepaid medical care.

#### DAVIDSON COUNTY

The Woman's Auxiliary to the Nashville Academy of Medicine and Davidson County Medical Society has had an interesting series of programs during the fall. In October the year's work was initiated with a coffee given by the Auxiliary Board in honor of the new members in the organization. The coffee was held at the home of the President, Mrs. James D. Lester, under whose outstanding leadership the membership has grown to one hundred ninety and the scope of the Auxiliary work greatly widened.

In November, Mr. Charles Ransom gave an address on the operation of the Nashville Blood Bank, explaining its operation and the great service it is rendering to the hospitals and the medical profession in and near Nashville. Many members visited the Blood Bank following his talk.

On Friday, December 5, at Richland Club, the Auxiliary had as guest of honor the State President, Mrs. Robert Patterson of Knoxville, whose address on the duties of both local and state officers and chairmen was a source of inspiration to every member who heard her. Mrs. Patterson was guest at the luncheon, which featured a program of Christmas readings and music.

#### OUR FRIENDS OF THE WOMAN'S MEDICAL AUXILIARY

Recently we sent a note of thanks to these

devoted women, telling them how very much we appreciate all they have done for General Hospital. Since last midsummer, when they "adopted" the hospital as their project of good will and material benefits, we have seen them among us. Whether the members have sewed, made surgical dressings, or pushed the book and magazine cart through many wards, their organization and regularity have given us a new view of what doctors' wives can accomplish for help and inspiration in this large charity undertaking.

In other words, they have joined with us to give General Hospital a lift, not only in numbers of garments beautifully sewed, dressings made, and reading distributed, but also by their contributions of joyous activity among us, and their fellowship with us in work. Because of them, our own work has in many ways become more effective.

Members of the Woman's Medical Auxiliary, please accept the thanks of us all—doctors, nurses, social workers, and patients, and not forgetting appreciation of Board and Administration.—*From "The Stethoscope," paper edited by the Nashville General Hospital School of Nursing.*

## MEDICAL SOCIETIES

#### KNOX COUNTY

December 2: "Hysterical Limps," by Dr. Leon J. Willien.

#### WASHINGTON-CARTER-UNICOI MEDICAL SOCIETY MEETING

The Tri-County Medical Society was the guest of the Medical Staff of the Veterans Facility at Mountain Home.

Dr. H. H. Bradshae, Professor of Surgery at the Bowman-Gray School of Medicine, Winston-Salem, North Carolina, spoke on "Surgical Treatment of Suppurative Diseases of the Lungs." He emphasized that in the last fifteen years the operative deaths in chest and lung surgery had been reduced from about fifty per cent to one per cent. Chronic infections of the lung such as long standing abscesses, bronchiectasis, and other chronic infections formerly considered

hopeless are now being operated on with removal of portions of the lung with complete cures. In most of these chronic cases surgical treatment is the only permanent curative procedure.

Dr. Walter M. Bartlett, Chief of the Medical Section of the Veterans Administration, Branch Office No. 5, gave a paper on "Differential Diagnosis of Precordial Pain," emphasizing the difference between chest pain actually due to heart disease or other organic chest diseases and pain due to non-organic or psychogenic factors.

W. D. HANKINS, M.D.,

*Secretary-Treasurer,*

*Washington-Carter-Unicoi County  
Medical Society.*

## OTHER MEDICAL SOCIETIES

The one-hundred-sixth semi-annual meeting of the Middle Tennessee Medical Association was held in Winchester on November 20. The newly elected officers are Dr. Carl Adams, Woodbury, President; Dr. Albert Weinstein, Nashville, Vice-President; Dr. C. N. Gessler, Nashville, Secretary-Treasurer.

The next meeting will be held in Fayetteville, Tennessee, on May 20, 1948.

### ANNUAL MEETING OF THE NASHVILLE SURGICAL SOCIETY

Dr. Alfred Blalock will be the speaker at the Annual Meeting of the Nashville Surgical Society. The medical profession is invited to be present at this occasion. The following account of Dr. Blalock's work is furnished us by Miss Mary Jane Brooks, of *The Nashville Banner*:

"Nashville surgeons will welcome back a former associate when Dr. Alfred Blalock, a member of the Vanderbilt teaching staff for sixteen years and now professor of surgery at Johns Hopkins, who is guest speaker of the Nashville Surgical Society, January 26.

"The medical profession throughout Tennessee is invited to attend Dr. Blalock's lecture, which will be at 8 P.M. in the ballroom of the Maxwell House Hotel.

"Dr. Blalock has been a contributor in various fields of surgery, but his move to Baltimore in 1941 to head the Johns Hopkins Department of Surgery led to formation of the now-famous team of Blalock and Taussig, originators of one of the most widely publicized surgical procedures of the past decade.

"While at Vanderbilt, Dr. Blalock had done considerable experimental work in vascular surgery. Returning to Johns Hopkins, where he had received his M.D. degree in 1922, Dr. Blalock met Dr. Helen Taussig, head of the Children's Cardiac Clinic. Dr. Taussig had developed a theory that 'blue babies,' whose condition she thought was caused by lack of circulation to the lungs, could be cured by an operation similar to one Dr. Blalock had been performing on dogs at Vanderbilt.

"The first Blalock-Taussig operation was performed in November, 1944, and the results of this and of the hundreds of others that followed are almost as well known to the general public as to the medical profession.

"As a native of Culloden, Georgia, Dr. Blalock received his A.B. degree from the University of Georgia in 1918. Following his graduation from medical school, he was a house officer at the Johns Hopkins Hospital for two years.

"In 1925, he came to Vanderbilt as resident surgeon, and then served successively as instructor, assistant professor, associate professor, and professor in the department of surgery.

"Six years ago, he became professor of surgery, director of the department of surgery, and surgeon in chief at Johns Hopkins."

### SOUTHEASTERN SURGICAL CONGRESS

The Sixteenth Annual Assembly of the Southeastern Surgical Congress will be held in Hollywood, Florida, Hollywood Beach Hotel, April 5, 6, 7, 8, 1948.

For further information, write B. T. Beasley, M.D., Secretary-Treasurer, 701 Hurt Building, Atlanta 3, Georgia.

### MIDWINTER SEMINAR, E. E. N. T.

This year the University of Florida Mid-



winter Seminar in Otolaryngology and Ophthalmology will be held at the Flamingo Hotel in Miami Beach, beginning on January 12 and continuing through January 17, 1948. The lectures in Otolaryngology will be presented on the twelfth, thirteenth, and fourteenth, and those in Ophthalmology on the fifteenth, sixteenth, and seventeenth. The registration fee is \$25.

For further information, write Shaler Richardson, M.D., Box 1018, Jacksonville 1, Florida.

#### UROLOGY AWARD

The American Urological Association offers an annual reward of \$1,000 (first prize of \$500; second prize, \$300; and third prize, \$200) for essays on the result of some clinical or laboratory research in Urology. Competition shall be limited to urologists who have been in such specific practice for not more than five years and to residents in urology in recognized hospitals.

The first prize essay will appear on the program of the forthcoming meeting of the American Urological Association, to be held at the Hotel Statler, Boston, Massachusetts, May 17-20, 1948.

For full particulars, write the Secretary, Thomas D. Moore, M.D., 899 Madison Avenue, Memphis, Tennessee. Essays must be in his hands before March 1, 1948.

## ABSTRACTS OF CURRENT LITERATURE

### ANESTHESIA

By H. M. AUSHAMAN, M.D.  
Medical Arts Building, Chattanooga

Chiropodist Practice Acts: Death of Patient Following Administration of Sodium Pentothal as Manslaughter. *Journal of American Medical Association*, Vol. 135, No. 10, November, 1947.

A brief account of the death of a patient after the injection (by a chiropodist) of three cubic centimeters of a five-per-cent solution (.15 gram) of sodium pentothal is cited.

A post mortem examination was made the next day, and the cause of death was given as respiratory failure with coronary sclerosis, moderate.

The report of the case reveals a considerable conflict between the evidence furnished by the two physicians who testified for the defense and the

five physicians who testified for the prosecution.

In one of its instructions the trial court embodied the statute defining the practice of medicine, including therein the provision (which defendant wanted brought to the attention of the jury) that such statute shall not be construed to prohibit gratuitous service in the case of an emergency. In another instruction the court defined chiropody. The giving of these two instructions was assigned as error because the defendant was not charged with violating either the medical practice act or the chiropody practice act. Chiropody is defined as a treatment of the feet, a number of limitations being stated as to what a chiropodist may do. Among other things, the statute provides that it must not be construed to "confer the right to use any anesthetic other than local." That is equivalent, we think, said the court, to a provision that a chiropodist must not give a general anesthetic. Counsel for the defendant contend that this provision has no application in the case at bar since defendant was not, in trying to set the shoulder, acting as a chiropodist, but merely acting as an individual. To strengthen this contention, counsel asserted that "there is no provision under the Wyoming law against a layman giving a general anesthetic" and, in fact, asked the court to give an instruction to that effect, which the court refused to do. We are not prepared to agree with defendant's contention, said the Supreme Court. As already indicated, the act regulating chiropody in effect says that a man who has only the limited education of a chiropodist in the treatment of human ailments—and he has some—is not competent to give a general anesthetic. Then to assert that the law meant to open the door to every person as an individual to give a general anesthetic, whether or not he has any education at all in the treatment of human ailments, sounds rather inconsistent. The fact that a chiropodist may not administer a general anesthetic clearly indicates that, under our statutes, the administration thereof is intended to be left to a person with greater knowledge of the frailties of the human system. We think we may take judicial notice of the fact that the administration of a general anesthetic may entail danger to a patient. We should hate to be the cause, in whole or in part, of any person finding himself in a plight such as that of the defendant herein as a result of our holding that anyone may administer a general anesthetic.

True, continued the Supreme Court, the defendant was not prosecuted for practicing medicine without a license or for violating the statute relating to chiropody, but it would seem that the jury had the right to take into consideration the fact that the defendant was not a licensed physician or surgeon in determining whether or not the defendant was guilty of criminal negligence. For a person who has sufficient knowledge to justify expectation of success to undertake to cure human ailments is one thing; for a person without sufficient knowledge to do so is another. Hence the jury was, we think, entitled to know that the

defendant was not a licensed physician or surgeon. If the defendant practiced medicine without a license, and if his treatment was with criminal negligence, and if death of his patient ensued as the result thereof, he would be guilty of manslaughter.

The judgment of the trial court was reversed on other grounds, however, and the cause remanded for a new trial.

State vs. Catellier, 179 P. (2d) 203 (Wyoming, 1947).

## CARDIOLOGY

By J. ALLEN KENNEDY, M.D.  
Bennie-Dillon Building, Nashville

**Incidence and Clinical Significance of Coronary Artery Disease in Diabetes Mellitus.** Samuel Stearns, M.D., Monroe J. Schlesinger, Ph.D., M.D., and Abraham Rudy, M.D., Boston. *Archives of Internal Medicine*, Vol. 80, No. 4, pp. 463-474, October, 1947.

The incidence of coronary artery disease in diabetic persons has been investigated many times at autopsy with general agreement that severe coronary arteriosclerosis is more frequent in diabetic than in nondiabetic patients.

The authors review some of the previous papers on the subject.

The present study is a result of fifty patients with proved diabetes mellitus in whom the hearts were carefully studied by an injection method plus careful dissection of the coronary arteries.

Six patients showed no evidence of arteriosclerosis. Thirty-seven patients showed moderate to marked coronary arteriosclerosis, many of whom had one or more complete occlusions. Thirteen patients showed slight to moderate coronary artery disease, which was not considered functionally significant.

The average age of fifty diabetic patients was sixty-four years, and none were less than forty-two years at the time of death. Thirty-eight per cent of the patients were men.

This study was controlled with a series of hearts from patients of four hundred consecutive autopsy examinations over the age of forty, giving the average age in the control group of sixty-one years. Functionally significant coronary arteriosclerosis occurred in only thirty-seven per cent of the four hundred controls as compared to seventy-four per cent of the diabetic patients. Old coronary artery occlusions were present in fifty-five per cent of diabetic women, but in only six per cent of the nondiabetic women.

Angina pectoris had been present in twenty-eight per cent of the diabetic patients and in only fifteen per cent of the nondiabetic patients.

Thirty-four per cent of the diabetic patients died with the clinical syndrome of acute coronary artery diseases, whereas in the control group an identical analysis showed the incidence of death from acute

coronary artery disease to be only fourteen per cent.

Seventy-four per cent of this series of diabetic patients had hypertension.

There was a fairly accurate correlation between the length of duration of diabetes and the severity of diabetes, with the severity of coronary arteriosclerosis.

In conclusion the authors point out that mild hyperglycemia is preferable to a diabetic regime which may result in insulin hypoglycemia with its attendant risk of precipitating myocardial infarction.

## GYNECOLOGY

By HAMILTON V. GAYDEN, M.D.  
649 Doctors Building, Nashville

**The Treatment of Carcinoma of the Vulva.** J. L. McKelvey, M.D., C.M., Minneapolis, Minnesota. *American Journal of Obstetrics and Gynecology*, Vol. 54, No. 4, pp. 626-633, October, 1947.

There is still considerable confusion as to the effectiveness of the various forms of therapy which are being advocated and used for vulvar carcinoma. This is apparently due to the fact that the disease is comparatively rare, and few investigators have had sufficient experience with it to justify dogmatic conclusions. Many have not hesitated to express unproved opinions, but one can only be surprised on reading the literature to realize how little factual support there is for such opinions. The outstanding exception is the work of Taussig. In spite of this, two rather disturbing facts must be faced. Papers are appearing which advocate extensive surgical procedures without any statement as to their applicability or results. Second, one cannot escape the fact that a large proportion of patients with this disease are in actual practice being handled by demonstrably ineffective measures which effectively preclude a reasonable chance of subsequent cure. It is the object of this paper to attempt to evaluate the results of such a decision at the University of Minnesota Medical School, to compare the results of the presently used radical vulvectomy with other types of procedures previously used, and to present what information has come from the material in regard to the further extension of the surgical attack. The material represents all of the vulvar carcinomas seen from 1928 to the end of 1946. Carcinoma of the vulva treated by a wide variety of combinations of simple vulvectomy, radium and X-ray, and with or without later unilateral or bilateral superficial or superficial and deep inguinal gland dissection produced an absolute cure rate of 13.9 per cent and a relative cure rate of 15.6 per cent. In a second series, radical vulvectomy as described was applicable to 90.5 per cent. Of thirty-eight patients so treated, four are alive and well more than five years after operation, and eighteen are alive and free of tumor



for from two to fifty-nine months. This represents a significant improvement. Some of the problems of the treatment of carcinoma of the vulva are discussed. Reasons are presented for the choice of this type of radical vulvectomy as opposed to lesser procedures and to further extension of the operation.

## INDUSTRIAL MEDICINE

By JEAN SPENCER FELTON, M.D.  
Monsanto Chemical Company  
Clinton Laboratories  
Oak Ridge

**Industrial Job Placement of Persons with Inactive Tuberculosis.** The Committee on Tuberculosis in Industry of the American Trudeau Society, the National Tuberculosis Association, and the National Conference of Tuberculosis Secretaries. *Occupational Medicine*, Vol. 4, pp. 22-25, July, 1947.

Originally published in pamphlet form by the National Tuberculosis Association, this guide for persons responsible for the employment of workers is of value in overcoming the reluctance on the part of employers in accepting applicants with a history of tuberculosis. Employees with inactive tuberculosis have demonstrated conclusively their value to industry and can be hired provided there is a wise selection, on the part of personnel directors and employment managers, in matching these people to job activities they are capable of handling. Suitable employment has not proved a health hazard, and proper supervision has protected the worker and supplied a margin of safety against a possible breakdown.

Each year thousands of individuals are discharged from hospitals and sanatoria with the physician's approval and the expectation that they may work. In addition to those returned to their old jobs or seeking new ones, many regular employees in industry, through mass chest surveys, will be found whose lungs contain scars of inactive tuberculosis that has run its course without their knowledge. In industry today there are well-organized health departments whose experience has allowed them to develop an enlightened employment policy toward the employee with inactive tuberculosis. With a knowledge of the hazards in their plants, these industrial physicians know the environments in which ex-patients can work safely.

Tuberculosis is not an occupational disease, but is a common hazard of living and may be contracted irrespective of station in life or occupation. The following principles govern procedure:

1. *Medical diagnosis*—The health status of employees must first be evaluated by qualified physicians, and the plant physician and the employer should confer on the placement of every person with inactive tuberculosis. The physician in industry must make frequent inspections and have knowledge of all materials and operations that involve hazards to health. Management should keep him informed of any changes that arise so

that a re-evaluation of health hazards may be made periodically.

2. *Placement*—A list of jobs in which a person with inactive tuberculosis can be placed safely is almost endless. However, he should never be subjected to occupational contact with significant concentrations of free silica dust. No other dust thus far encountered in industry has an established relationship to tuberculosis. While it has been asserted that exposure to excessive heat, cold, dampness, humidity, or gases, reactivate tuberculosis, proof of such action is lacking.

3. *Medical supervision of the employee*—After placement, repeat Roentgen examinations of the employee should be made at regular intervals even though working conditions are favorable. The industrial physician should determine the frequency of these examinations, depending usually on the person's health status and the type of work he is doing. The personnel officer, the foreman, and the plant nurse should be on the alert to detect any signs of impaired health. Furthermore, an examination, including a Roentgenogram of the chest, should be made whenever an employee shows evidence of illness or returns to work after absence due to illness. If the examination reveals that the employee's tuberculosis has become active, he must stop work and receive medical treatment.

Every effort should be made to convince employers that with proper medical control and placement, employment of recovered tuberculosis patients is good business and does not involve undue hazards to the employer. Compensation laws must be administered without placing on the employer the liability for aggravated or reactivated tuberculosis.

## OBSTETRICS

By MILTON SMITH LEWIS, M.D.  
Bennie-Dillon Building, Nashville

**Fibroids in Pregnancy: An Analysis of 122 Cases Treated in University College Hospital, London, from 1934 to 1945.** E. W. C. Buckell. *Journal of Obstetrics and Gynecology, British Empire*, Vol. 54, pp. 70-76, 1947.

From the frequency of complications in pregnancy, labor, and puerperium, and the high fetal and maternal death rate, it is concluded that the presence of fibroids in pregnancy is a serious complication.

Of 15,313 pregnancies at this hospital over the past twelve years, there have been 122 cases with fibroids, an incidence of .79 per cent. Of the 122 cases, 81 were primigravidae and 41 were multiparae. The average age of all cases was 34.3 years, the ages varying from twenty-five to forty-six years. More than twenty per cent of the patients were primigravidae of thirty-six years of age or more.

In this series of cases, pregnancy was normal in only forty-nine (forty per cent). Fifteen of



the 102 cases where records are available (14.7 per cent) gave a history of at least one miscarriage. Eleven cases (9.8 per cent) had a threatened abortion; in nine patients this occurred after the twelfth week. Seventeen patients (fourteen per cent) miscarried, ten of them after the third month. It is of note that the greatest proportion took place after the twelfth week, a point emphasized by Pierson. Premature labor took place on ten occasions (twice in a twin pregnancy), and six of the twelve infants were lost. Thus, including the cases of abortion and premature labor, premature interruption of pregnancy occurred in 22.1 per cent of cases, with a fetal mortality rate of 79.3 per cent.

Watson regarded red degeneration as the most frequent complication, and this is confirmed in the present series where two patients (eighteen per cent) presented this complication at any time from the beginning of gestation until term. All cases except two were treated conservatively; laparotomies were performed on four occasions. It is concluded that conservative treatment is preferable, and that myomectomy should, if possible, be avoided. The risk attached to the operation is about five-tenths per cent greater in pregnancy. It was performed only five times in this series.

There were five cases (4.1 per cent) of ante partum hemorrhage for which no cause could be found. Two patients carried normally to term; cesarean section was performed in two cases at the thirty-fifth and thirty-eighth week, respectively; and one patient had a breech delivery.

Hysterectomy was performed before the period of viability in six cases; on four occasions the pregnancy had not been diagnosed. Severe epilepsy and psychological reasons necessitated the other two operations. Another pregnancy was terminated for severe thyrotoxicosis.

Of the eighty-eight cases delivered in this hospital, fifty (fifty-seven per cent) had normal labors, although seven were premature. Uterine inertia, defined as a first stage of labor lasting more than forty-eight hours, was present in eight cases (9.1 per cent). This incidence, although far greater than in unselected cases, was less than might have been expected from a study of other records.

Delay in the second stage, myomectomy during pregnancy, and deep transverse arrest were the indications for the forceps extraction of eleven infants (12.5 per cent). Cesarean section was performed in twenty-two cases (twenty-five per cent), the most frequent indications being the patient's age, uterine inertia, unfavorable presentation, and obstructing fibroid.

Of the sixty-six vaginal deliveries, two patients, or three per cent, had post partum hemorrhage, and one manual removal of the placenta was necessary. Pierson reported that 33.6 per cent of his patients had post partum hemorrhage.

There were six breech (one in a twin pregnancy) and two shoulder presentations at term.

Puerperal morbidity was noted in seven patients, but in only two instances could this be attributed to the presence of fibroids.

There were three maternal deaths, one from post-operative shock following cesarean section and myomectomy, and one from broncho-pneumonia following craniotomy.

Of 113 patients who were looked after by the hospital, only seventy-nine had healthy children. Fourteen per cent aborted, and the fetal and neonatal death rate was 11.1 per cent. Five infants were born macerated, one was a dead birth following premature labor complicated by a prolapsed cord, two were still-births (one following manual dilatation of the cervix and forceps delivery, and one a breech extraction), and there were two neonatal deaths, one following premature labor, and the other a forceps delivery following a prolapsed cord. It is concluded that cesarean section will usually secure a living child, and that it should be seriously considered in all elderly primigravidae and in all other patients where there is an additional complication.

## OPHTHALMOLOGY

By ROBERT J. WARNER, M.D.  
Doctors Building, Nashville

Glaucoma and Ocular Tension. Dr. Baillart. *American Journal of Ophthalmology*, November, 1947.

This analysis of forty patients with infantile glaucoma shows that the tension was surgically brought to normal in only half of those operated upon. Blindness is not only caused by increased ocular tension, but also by subsequent atrophy. Twenty-three per cent of the patients admitted between the ages of eight and eighteen years had infantile glaucoma. Boys were affected more frequently than girls in the ratio of five to three.

Only five per cent of the total infantile glaucomas were due to congenital syphilis, and an equal number occurred in children whose mothers had rubeola in the first months of pregnancy. In seventeen per cent of the cases the infantile glaucoma was familial. Latent or actual hydrocephalus was associated in approximately twenty-five per cent and buphthalmos existed with infantile glaucoma in sixty-seven per cent. Nine eyes had been enucleated before admission, and sixty per cent of the patients who had had surgical treatment were totally blind.

## PROCTOLOGY

By O. C. GASS, M.D.  
401 Medical Arts Building  
Chattanooga

Transurethral Resection for Vesical Neck Obstruction Following Abdominoperineal Surgery. E. E. Ernest,

M.D., and H. A. Hoffman. *Surgical Clinics of North America*, Vol. 24, June, 1944.

In 1941 there were 750 cases reviewed of large bowel surgery in order to study the urologic complications of following these procedures. It was concluded that urologic complications are most frequent after removal of the rectal portion of the intestinal tract, and further that the most frequent complications is difficulty in emptying the bladder.

At the end of 1943 our series comprised 833 patients who had undergone removal of the rectum for carcinoma by the Miles or Lahey procedure. Of these, 464 were men and 369 women. An inlying catheter with the patient on constant drainage was routinely used for the first ten postoperative days. After removal of the catheter, eighty-one of the patients were unable satisfactorily to empty the bladder, sixty-five men and sixteen women. All the patients who required transurethral resection were men.

Removal of the rectum allows definite bladder distortion. The malposition, with only minor disturbances in the balance of the autonomic nervous septum, predisposes to urinary retention. This bladder difficulty is much more frequent and severe if the prostate is even slightly enlarged. Cystometric studies show diminished sensory components, increased bladder capacity, and decreased intravesical pressure curve. The anatomical and neurogenic lesions often are transient. Postoperative retention due to true anatomical obstruction of the bladder neck is often overlooked.

Symptoms of urinary tract obstruction and the degree of prostatic enlargement usually can be obtained from the admitting history and physical examination.

The bladder neck correction is best carried out after abdominoperineal surgery because—

1. Detrusor paralysis might occur after the Miles or Lahey resection, despite adequate bladder neck correction, and this situation would require catheterization over a field just recently subjected to endoscopic surgery.
2. The prostate gland undergoes regression in size after abdominoperineal surgery because of destruction of much of the blood supply. If the prostatic operation is carried out after the abdominoperineal resection, the patient is not required to remain on the table as long as otherwise.
3. If the transurethral surgery follows the abdominoperineal surgery, the postoperative reaction is less marked since the operative field has been partially walled off by domination of the lymphatic and vascular system. Less reaction can be anticipated with respect to fever and postoperative shock.

A complete medical check-up always is in order. The patient's blood is typed and blood transfusion is in readiness. The grade of prostatic enlargement is determined. A history of inguinal pain or the presence of inguinal hernia may be a clue to bladder neck obstruction.

## BOOK REVIEW

Ear, Nose, and Throat—Symptoms, Diagnosis, Treatment. George D. Wolf, M.D., Assistant Clinical Professor of Otolaryngology, New York Medical College. 523 pages with 149 illustrations, including 25 in color. Price, \$10. Philadelphia: J. B. Lippincott Company.

This new book is a thorough yet compact consideration of the diseases of the ear, nose, and throat and their management. It is especially useful for the student and general practitioner as it is comprehensive without being too detailed.

Dr. Wolf has organized the book according to symptoms as they are presented to the doctor and discusses etiology, clinical interpretations, and treatment of each. Each chapter is begun by a brief historical review, then a brief resume of the clinical anatomy and physiology of the parts concerned. Where surgical treatment is indicated, the surgical procedures are outlined in a clear, concise manner, including preoperative and postoperative care.

The book is divided into five parts. Part I discusses the nose, throat, and larynx. Such important symptoms as nasal hemorrhage, throat hemorrhage, foreign bodies in nose, pharynx, air passages, and ear, tracheotomy, fractures, and cocaine poisoning are discussed under the heading of emergencies. Other important subjects are headache, vertigo, obstructed nasal breathing, postnasal drip, sore throat, dyspnea, and hoarseness, which are covered as to symptomatology, etiology, diagnosis, prognosis, and treatment.

Part II covers the ear, also from a symptom standpoint, discussing earache, chronic otitis media, impaired hearing, deafness, and tinnitus aurium, giving the anatomy, methods of examination, etiology, and methods of treatment.

Part III treats other conditions met in otolaryngology such as swelling of salivary glands, excessive lacrimation, disturbances of smell, sneezing, halitosis, snoring, and many other important conditions one may see and be required to treat.

Part IV deals with facial plastic surgery, giving a brief resume of the technique of the various surgical procedures and the results one may expect.

Part V is concerned with subjects related to otolaryngology and very important to all who are called upon to treat patients. Such important conditions as barotrauma, allergy, blood dyscrasia, avitaminosis, and antibiosis are discussed here and their treatment outlined.

A section on planning and equipping an office is included that should prove helpful to all who are about to undertake this important step.

This treatise cannot be too highly recommended for those called upon to treat conditions of the ear, nose, and throat.

L. F. C.



# 1947 MEMBERS OF TENNESSEE STATE MEDICAL ASSOCIATION

The list of members of the Tennessee State Medical Association is published in compliance with a provision of the constitution and by-laws. The data are accurate as of December 1, 1947. They are arranged in the following order:

List of active members.

Counties arranged alphabetically.

**ANDERSON COUNTY**  
*Clinton*  
 A. W. Bishop  
 J. S. Hall  
 Carroll E. McCarthy  
*Devonia*  
 E. B. Smith  
*Lake City*  
 J. M. Cox  
 L. J. Seargeant  
 R. B. Scott  
*Norris*  
 James W. Lassiter  
*Oak Ridge*  
 (See Roane County)  
 Howard Curl  
 (Mbr. Shelby Co.)  
 E. M. Dings  
 P. M. Dings  
 Jean S. Felton  
 Jimmy L. Pinkston  
 Edward C. Riley  
 H. H. Ring  
 (Mbr. Sevier Co.)  
 Thomas Stevens  
 (Mbr. Knox Co.)

**BEDFORD COUNTY**  
*Bell Buckle*  
 J. K. Freeman  
*Shelbyville*  
 W. H. Avery  
 James N. Burch  
 B. L. Burdett  
 W. L. Chambers  
 A. L. Cooper  
 Alfred Farrar  
 Taylor Farrar  
 H. A. Morgan, Jr.  
 T. R. Ray  
 Carl Rogers  
*Wattrace*  
 M. L. Connell

**BENTON COUNTY**  
*Camden*  
 A. T. Hicks

**BLED SOE COUNTY**  
*Pikeville*  
 Thomas G. Cranwell  
 (Mbr. Hamilton Co.)

**BLOUNT COUNTY**  
*Alcoa*  
 Harris T. Vandergriff  
*Friendsville*  
 Robert Kuhn  
 (Mbr. Knox Co.)  
*Greenback*  
 Joe E. Hall  
*Maryville*  
 K. A. Bryant  
 Geo. W. Burchfield  
 Henry A. Callaway  
 Lea Callaway  
 C. F. Crowder  
 W. C. Crowder  
 Lynn F. Curtis  
 W. N. Dawson

**BRADLEY COUNTY**  
*Charleston*  
 C. S. Herron  
*Cleveland*  
 D. N. Arnold  
 W. B. Campbell  
 E. R. Ferguson  
 Wm. A. Garrott  
 J. L. McClary  
 Joseph McCain  
 C. T. Speck  
 W. C. Stanberry  
 S. J. Sullivan  
 Claude H. Taylor  
 Madison S. Trewhitt

**CAMPBELL COUNTY**  
*Block*  
 Chas. Rogers  
*Caryville*  
 A. A. Baird  
*Clinchmore*  
 Chas. E. Pack, Jr.  
*Jellico*  
 C. E. Ausmus  
 Geo. B. Brown  
 Robert Brown  
 Charles A. Prater  
 Frank J. Slemmons  
 Ned C. Watts

**CARROLL COUNTY**  
*Bruceton*  
 R. T. Keeton  
 L. E. Trevathan  
*Clarksburg*  
 R. B. Wilson  
*Huntingdon*  
 C. T. Cox  
 R. A. Douglass  
*McKenzie*  
 E. E. Edwards  
 J. T. Holmes  
*Trezevant*  
 F. C. Carnell

**CARTER COUNTY**  
*Elizabethton*  
 R. J. Allen  
 Charles B. Baughman  
 E. L. Caudill  
 E. L. Caudill, Jr.  
 Henry M. Cox  
 (Mbr. Davidson Co.)  
 H. B. Damron  
 W. G. Frost  
 John A. Knapp  
 Lester Lutes  
 E. T. Pearson  
 Burton S. Shook  
*Roan Mountain*  
 Thos. L. Mosby

**CHEATHAM COUNTY**  
*Thomasville*  
 J. M. Harris  
 (Mbr. Montgomery Co.)

**CHESTER COUNTY**  
*Henderson*  
 John W. Baird  
 W. O. Baird  
 H. T. Pitts  
 Hunter M. Steadman  
 L. C. Smith  
 J. B. Stephens

**CLAIBORNE COUNTY**  
*Cumberland Gap*  
 Hugh C. Chance  
 (Mbr. Anderson-Campbell Co.)  
*New Tazewell*  
 H. C. Evans  
 (Mbr. Knox Co.)  
 George L. Rea  
 (Mbr. Knox Co.)

**CLARK COUNTY**  
*Clarksburg*  
 R. B. Wilson  
*Huntingdon*  
 C. T. Cox  
 R. A. Douglass  
*McKenzie*  
 E. E. Edwards  
 J. T. Holmes  
*Trezevant*  
 F. C. Carnell

**CUMBERLAND COUNTY**  
*Crossville*  
 W. S. Dooley  
 H. F. Lawson  
 V. L. Lewis  
 E. W. Mitchell  
*Pleasant Hill*  
 Robert M. Metcalfe  
 Margaret Stewart  
 May C. Wharton

**DAVIDSON COUNTY**  
*Donelson*  
 E. E. Anderson  
 Maurice S. Davis  
 A. C. Dickson  
 Chas. W. Gaskins  
 H. P. Hyder  
*Goodlettsville*  
 S. J. Fentress  
*Madison*  
 Frederick B. Cothren  
 David F. Johnson  
 Cyrus Eve Kendall  
 E. A. Sutherland  
 Joe E. Sutherland  
 Harry Witzum

**DECATUR COUNTY**  
*Nashville*  
 Walter M. Adair  
 Crawford Adams  
 J. W. Alford, Jr.  
 C. F. Anderson  
 Jas. P. Anderson  
 Joe D. Anderson  
 J. Sumpter Anderson  
 W. B. Anderson  
 J. J. Ashby  
 J. Mansfield Bailey  
 Sidney W. Ballard  
 Hugh Barr  
 R. A. Barr  
 E. H. Barksdale  
 David S. Bayer  
 Lynch Bennett  
 Edmund W. Benz  
 W. C. Bilbro  
 F. T. Billings, Jr.  
 R. W. Billington  
 James B. Bodie, Jr.  
 E. P. Bowerman  
 Anna M. Bowie  
 John M. Boylin  
 H. B. Brackin  
 Cloyce F. Bradley  
 G. Hearn Bradley  
 T. F. Bridges  
 Emmett E. Brown  
 M. F. Brown  
 (Mbr. Lincoln Co.)  
 Murray C. Brown

**DEKALB COUNTY**  
*Clinton*  
 A. W. Bishop  
 J. S. Hall  
 Carroll E. McCarthy  
*Devonia*  
 E. B. Smith  
*Lake City*  
 J. M. Cox  
 L. J. Seargeant  
 R. B. Scott  
*Norris*  
 James W. Lassiter  
*Oak Ridge*  
 (See Roane County)  
 Howard Curl  
 (Mbr. Shelby Co.)  
 E. M. Dings  
 P. M. Dings  
 Jean S. Felton  
 Jimmy L. Pinkston  
 Edward C. Riley  
 H. H. Ring  
 (Mbr. Sevier Co.)  
 Thomas Stevens  
 (Mbr. Knox Co.)

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 A. W. Bishop  
 J. S. Hall  
 Carroll E. McCarthy  
*Devonia*  
 E. B. Smith  
*Lake City*  
 J. M. Cox  
 L. J. Seargeant  
 R. B. Scott  
*Norris*  
 James W. Lassiter  
*Oak Ridge*  
 (See Roane County)  
 Howard Curl  
 (Mbr. Shelby Co.)  
 E. M. Dings  
 P. M. Dings  
 Jean S. Felton  
 Jimmy L. Pinkston  
 Edward C. Riley  
 H. H. Ring  
 (Mbr. Sevier Co.)  
 Thomas Stevens  
 (Mbr. Knox Co.)

Towns in each county arranged alphabetically and the members in each town arranged alphabetically.

List of members residing outside the state arranged alphabetically.

List of veteran members.

List of members who have died in the year 1947.

**Tullahoma**  
 J. M. King  
 (Mbr. Bedford Co.)  
 William O'Neil  
 (Mbr. Bedford Co.)

**CROCKETT COUNTY**  
*Alamo*  
 E. O. Prather, Jr.  
*Bells*  
 E. Farrow  
 F. P. Hess  
 S. E. McDonald  
*Friendship*  
 W. H. Stallings

**CUMBERLAND COUNTY**  
*Crossville*  
 W. S. Dooley  
 H. F. Lawson  
 V. L. Lewis  
 E. W. Mitchell  
*Pleasant Hill*  
 Robert M. Metcalfe  
 Margaret Stewart  
 May C. Wharton

**DAVIDSON COUNTY**  
*Donelson*  
 E. E. Anderson  
 Maurice S. Davis  
 A. C. Dickson  
 Chas. W. Gaskins  
 H. P. Hyder  
*Goodlettsville*  
 S. J. Fentress  
*Madison*  
 Frederick B. Cothren  
 David F. Johnson  
 Cyrus Eve Kendall  
 E. A. Sutherland  
 Joe E. Sutherland  
 Harry Witzum

**DEKALB COUNTY**  
*Nashville*  
 Walter M. Adair  
 Crawford Adams  
 J. W. Alford, Jr.  
 C. F. Anderson  
 Jas. P. Anderson  
 Joe D. Anderson  
 J. Sumpter Anderson  
 W. B. Anderson  
 J. J. Ashby  
 J. Mansfield Bailey  
 Sidney W. Ballard  
 Hugh Barr  
 R. A. Barr  
 E. H. Barksdale  
 David S. Bayer  
 Lynch Bennett  
 Edmund W. Benz  
 W. C. Bilbro  
 F. T. Billings, Jr.  
 R. W. Billington  
 James B. Bodie, Jr.  
 E. P. Bowerman  
 Anna M. Bowie  
 John M. Boylin  
 H. B. Brackin  
 Cloyce F. Bradley  
 G. Hearn Bradley  
 T. F. Bridges  
 Emmett E. Brown  
 M. F. Brown  
 (Mbr. Lincoln Co.)  
 Murray C. Brown

**DEKALB COUNTY**  
 W. M. Hardy  
 W. P. Hardy  
 W. H. Harris  
 Fred R. Haselton  
 O. S. Hawk  
 James T. Hayes  
 Harry Helm  
 (Mbr. Roane Co. Soc.)  
 R. N. Herbert  
 J. B. Hibbitts, Jr.  
 I. R. Hillard  
 R. H. Hirsch  
 J. Harvill Hite  
 G. W. Holcomb  
 A. N. Hollabaugh, Jr.  
 Chas. F. Hollabaugh  
 Benton B. Holt  
 W. W. Hubbard  
 H. H. Hudson  
 Vernon Hurton, Jr.  
 Vernon Hurton, Sr.  
 J. McK. Ivie  
 Daniel J. Johns  
 George S. Johnson  
 Hollis E. Johnson  
 Edgar Jones  
 T. M. Jordan  
 R. H. Kampmeier  
 A. E. Keller  
 J. P. Keller  
 Allen Kennedy  
 Howard King  
 J. A. Kirtley, Jr.  
 R. K. Landis  
 Leon M. Lanier  
 Ralph M. Larsen  
 Horace T. Lavelly, Jr.  
 W. P. Law  
 John Ledbetter  
 (Mbr. Montgomery Co.)  
 John M. Lee  
 John J. Lentz  
 Norris C. Leonard,  
 D.D.S.  
 Jas. D. Lester  
 Milton S. Lewis  
 Rudolph Light  
 Walter M. Lott  
 L. S. Love  
 J. P. Lowe  
 S. L. Lowenstein  
 Frank H. Luton  
 Robt. H. Magruder  
 Guv Milford Maness  
 J. Owsley Manier  
 Travis H. Martin  
 W. D. Martin  
 Andrew Mayer  
 Ben Mayes  
 W. M. McCabe  
 G. S. McClellan  
 C. C. McClure  
 Robt. L. McCracken  
 C. S. McMurray  
 Barton McSwain  
 Wm. F. Meacham  
 Cleo M. Miller  
 Walter M. Morgan,  
 D.D.S.  
 Hugh J. Morgan  
 N. B. Morris  
 P. G. Morrissey  
 P. G. Morrissey, Jr.  
 Kirk T. Mosley  
 M. K. Moulder  
 D. L. Mumpower  
 Lamb B. Myhr  
 Oscar G. Nelson  
 O. A. Oliver, D.D.S.  
 Eugene Orr  
 Wm. F. Orr, Jr.  
 James C. Overall



Fred W. T. Overton R. C. Patterson, Jr. H. E. Pary Edna Pennington J. C. Pennington J. C. Peterson M. A. Perrone David R. Pickens Cobb Pilcher Thos. G. Pollard Bruce P. Pool J. J. Post Paul E. Purks Chas. C. Randall G. F. T. Rahilly James Seay Read E. M. Regen W. E. Reynolds S. B. D. Rhea John R. Rice H. P. Rieger William H. Ries Elkin L. Rippey S. S. Riven Ben H. Robbins Miller Robinson E. L. Roberts Louis Rosenfeld Sam T. Ross B. T. Rucks Harry Sauberli H. H. Sayers A. B. Scoville, Jr. George F. Seeman, D.D.S. D. C. Seward Trimble Sharber N. S. Shofner H. H. Shoulders H. S. Shoulders Harrison J. Shull (Mbr. Bedford Co.) Ammie T. Sikes T. E. Simpkins Melvin M. Simmons D. W. Smith Henry C. Smith C. J. Speas Herman Spitz Hans K. Strauss Joe M. Strayhorn W. D. Strayhorn Robt. E. Sullivan W. Albert Sullivan W. D. Sumpter Arthur J. Sutherland W. Huston Tanksley Edw. L. Tarpley S. R. Teachout Pauline Tenzel A. B. Thach, Sr. C. S. Thomas J. N. Thomasson H. M. Tigert W. Oakes Tirrill, Jr. C. 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Anderson  
 Bedford  
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 Blount  
 Bradley  
 Carroll  
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 Carter  
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## INDEX TO VOLUME XL

- Abstracts of Current Literature 25, 58, 92, 129, 161, 197, 233, 272, 312, 342, 382, 412
- Acute Pulmonary Edema Resulting from Intravenous Saline, John E. Whiteleather, M.D., and J. E. Gardner, M.D., Memphis— 326
- Advertisers, Index to, XLII, XXXVIII, XLII, XXXVIII, XLII, XXXVIII, XXXVIII, XXXVI, XXXVIII, XXXVI, XXXIV, XXXII
- Agreement Between the Veterans Administration and the Tennessee State Medical Association for the Medical Care of Veterans with Service Connected Disabilities 75
- An Analysis of Comparative Contract Benefits 394
- An Analysis of 107 Cesarean Sections, Richard B. Austin, III, B.S., M.D., Nashville 33
- An Analysis of the Causes of Globus Hystericus, William D. Stinson, M.D., Memphis 332
- And We Quote 52, 87, 125, 157, 192, 267, 338, 377
- Aortic Aneurysm—Case Report, External Rupture of, Sanford M. Vaughan, M. D., Henning 187
- Asphyxiated Newborn Infant, Resuscitation of the, H. E. Atherton, M.D., Memphis 372
- Bone Lesions in Gaucher's Disease, Moore Moore, Jr., M.D., Memphis, and Bradley L. Coley, M.D., New York, N. Y. 101
- Book Reviews 66, 385, 416
- Breast, Limitations and Indications of Surgery and Radiation Therapy for Cancer of the, U. V. Portmann, M.D., Cleveland, Ohio 211
- Cancer of the Breast, Limitations and Indications of Surgery and Radiation Therapy for, U. V. Portmann, M.D., Cleveland Ohio 211
- Case Report—Lead Encephalopathy, Clifton W. Woolley, M.D., Memphis 188
- Cesarean Sections, An Analysis of 107, Richard B. Austin, II, B.S., M.D., Nashville 33
- Clinical Aspects of the Rh Factor, D. C. Seward, M.D., Nashville 247
- Committee Activities 53
- Committees, Standing 32, 68, 100, 136, 168, 204, 240, 278, 318, 348, 388, 430
- Committee, Post Graduate 309
- Comparative Contract Benefits, An Analysis of 394
- Complications of Diphtheria, Some Unusual, Joe W. Johnson, M.D., Chattanooga 114
- Conference on Rural Health, Second Annual 69
- County Societies, Functions of, John C. Burch, M.D., Nashville 151
- Deaths 18, 52, 86, 156, 191, 228, 310, 337, 377, 408
- Dermatitis, A New Method for the Ambulatory Treatment of Poison Ivy, Frank G. Witherspoon, M.D., Nashville 1
- Diabetes Mellitus—A Review of Progress, Albert Weinstein, M.D., F.A.C.P., Nashville 220
- Diagnosis and Treatment of Meningitis in Children, Abraham Levinson, M.D., Chicago, Illinois 205
- Diphtheria, Some Unusual Complications of, Joe W. Johnson, M.D., Chattanooga 114
- Distribution of Medical Care in Tennessee, C. M. Hamilton, M.D., Nashville 142
- Economics, Some Problems in the Field of Medical, H. H. Shoulders, M.D., Nashville 137
- Edema Resulting from Intravenous Saline, Acute Pulmonary, John E. Whiteleather, M.D., and J. E. Gardner, M.D., Memphis 326
- Editorial 17, 51, 83, 124, 154, 190, 226, 262, 303, 376, 405
- Emboli, Management of Arterial, James A. Kirtley, Jr., M.D., Nashville 351
- Encephalopathy—Case Report, Lead, Clifton W. Woolley, M.D., Memphis 188
- Epidemiology and Recent Developments in Poliomyelitis, Joseph G. Molner, M.D., Detroit 176
- Epilepsy, A Surgical Treatment of Localized, Cobb Pilcher, M.D., Nashville 241
- External Rupture of Aortic Aneurysm—Case Report, Sanford M. Vaughan, M.D., Henning 187
- Functions of County Societies, John C. Burch, M.D., Nashville 151
- Gaucher's Disease, Bone Lesions in, Moore Moore, Jr., M.D., Memphis, and Bradley L. Coley, M.D., New York, New York 101
- Georgia and Its Health Program, M. E. Thompson, Governor, Atlanta, Georgia 402
- Have You Registered? 302
- Health Legislation Enacted by the Seventy-Fifth General Assembly, C. B. Tucker, M.D., and Robert H. White, Ph.D., Department of Public Health, State of Tennessee 46
- Health Problems in the South, Industrial, E. J. Gaynor, II, Brunswick, Georgia 349
- Health Problem, Georgia and Its, M. E. Thompson, Governor, Atlanta, Georgia 402
- Health Service Recommendations, School, Dean F. Smiley, M.D., and F. V. Hein, Ph.D. 358
- Heart Block, R. B. Wood, M.D., Knoxville 11
- Heart Tetralogy with Palindromic Rheumatism, A Unique, David Sheinberg, M.D., Memphis 260
- Hemothorax, The Management of Traumatic, L. Spires Whitaker, M.D., Chattanooga 43
- House of Delegates, Index to Proceedings of the 301
- Hydrochloride, Methopon 149
- Hystericus, An Analysis of the Causes of Globus, William D. Stinson, M.D., Memphis 332
- Index to Advertisers, XLII, XXXVIII, XLII, XXXVII, XLII, XXXVIII, XXXVIII, XXXVI, XXXVIII, XXXVI, XXXII
- Index to Proceedings of the House of Delegates 301
- Index to Volume XL 423
- Industrial Health Problems in the South, E. J. Gaynor, III, Brunswick, Georgia 349
- Infant, Resuscitation of the Asphyxiated Newborn, H. E. Atherton, M.D., Memphis 372
- Lead Encephalopathy—Case Report, Clifton W. Woolley, M.D., Memphis 188
- Legislation Enacted by the Seventy-Fifth General Assembly, Health, C. B. Tucker,



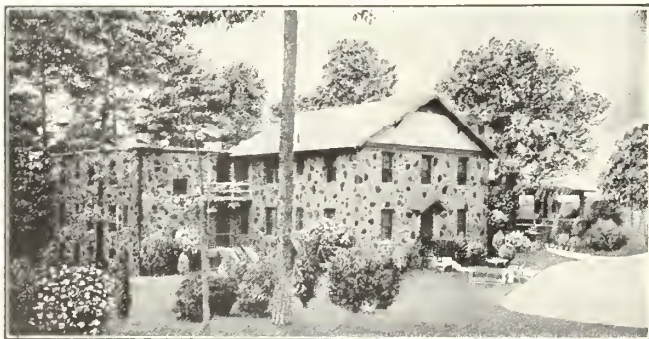
- M.D., and Robert H. White, Ph.D., Department of Public Health, State of Tennessee 40
- Lesions in Gaucher's Disease, Bone, Moore Moore, Jr., M.D., Memphis, and Bradley L. Coley, M.D., New York, N. Y. 101
- Lesions, Ringlike Skin, Clarence Shaw, M.D., Chattanooga 330
- Letter, Secretary's, George F. Lull, M.D., Secretary and General Manager, American Medical Association 336, 407
- Limitations and Indications of Surgery and Radiation Therapy for Cancer of the Breast, U. V. Portmann, M.D., Cleveland, Ohio 221
- List of Officers of the Tennessee State Medical Association 31, 67, 99, 135, 167, 203, 239, 277, 317, 347, 387, 429
- Management of Arterial Emboli, James A. Kirtley, Jr., M.D., Nashville 351
- Management of Rectal Prolapse, The, Daugh W. Smith, M.D., F.A.C.S., Nashville 360
- Management of Traumatic Hemothorax, L. Spires Whitaker, M.D., Chattanooga 43
- Medical Care in Tennessee, Distribution of, C. M. Hamilton, M.D., Nashville 142
- Medical Care Plans, Voluntary Prepayment, James R. McVay, M.D., Kansas City 389
- Medical Economics, Some Problems in the Field, H. H. Shoulders, M.D., Nashville 137
- Medical Societies 22, 55, 89, 128, 159, 195, 232, 272, 312, 341, 381, 410
- Meeting Tennessee State Medical Association, Peabody Hotel, Memphis, Tennessee, April 8-10, 1947, Proceedings of the House of Delegates, One Hundred Twelfth Annual 279
- Meningitis in Children, Diagnosis and Treatment of, Abraham Levinson, M.D., Chicago, Illinois 205
- Metopon Hydrochloride 149
- Moniliasis Treated with Penicillin, Pulmonary, Bernard M. Zussman, M.D., Memphis 258
- Most Advanced Phases in the Treatment and Especially the Diagnosis of Tuberculosis, J. B. Naive, M.D., Knoxville 253
- Neoplasms of the Skin, The Treatment of Benign and Malignant, Charles G. Andrews, M.D., Memphis 77
- New Method for the Ambulatory Treatment of Poison Ivy Dermatitis, Frank G. Witherspoon, M.D., Nashville 1
- News Notes and Comments 19, 54, 87, 127, 158, 194, 229, 269, 310, 339, 378, 408
- Non-Operative Treatment of Acute Hematogenous Osteomyelitis; Preliminary Report, John J. Killeffer, M.D., and Robert C. Robertson, M.D., Chattanooga 319
- Nurses, Training for Registered Practical, W. A. Seeley, State Supervisor of Trade and Industrial Education, Nashville 245
- Observations in Electric Shock Therapy, George Rosenberg, M.D., Veterans Administration Hospital, Murfreesboro 365
- Officers of the Tennessee State Medical Association, List of 31, 67, 99, 135, 167, 203, 239, 277, 317, 347, 387, 429
- Osteomyelitis: Non-Operative Treatment of Acute Hematogenous, Preliminary Report, John J. Killeffer, M.D., and Robert C. Robertson, M.D., Chattanooga 319
- Other Medical Societies 25, 57, 91, 129, 160, 196, 341, 411
- Palindromic Rheumatism, A Unique Heart Tetralogy with, David Sheinberg, M.D., Memphis 260
- Paralysis in the Treatment of Pulmonary Tuberculosis, Phrenic, F. H. Alley, M.D., Oakville, and W. W. Hubbard, M.D., Nashville 181
- Past Progress and Future Program of Tuberculosis Control, J. B. Naive, M.D., Knoxville 48
- Penicillin, Pulmonary Moniliasis Treated With, Bernard M. Zussmann, M.D., Memphis 258
- Phrenic Paralysis in the Treatment of Pulmonary Tuberculosis, F. H. Alley, M.D., Oakville, and W. W. Hubbard, M.D., Nashville 181
- Pneumonia: A Review of Recent Literature, Primary Atypical, William A. Hensley, Jr., M.D., Cookeville 3
- Poliomyelitis, Epidemiology and Recent Developments in, Joseph G. Molner, M.D., Detroit, Michigan 176
- Poison Ivy Dermatitis, A New Method for the Ambulatory Treatment of, Frank G. Witherspoon, M.D., Nashville 1
- Post Graduate Committee 309
- Prepayment Medical Care Plans, Voluntary, James R. McVay, M.D., Kansas City 389
- Present-Day Management of Early Syphilis, Dudley C. Smith, M.D., Charlottesville, Virginia 169
- Primary Atypical Pneumonia: A Review of Recent Literature, William A. Hensley, Jr., M.D., Cookeville 3
- Problems in the Field of Medical Economics, Some, H. H. Shoulders, M.D., Nashville 137
- Problem of Varicose Veins, The, E. M. Stevenson, M.D., Memphis 107
- Proceedings of the House of Delegates, One Hundred Twelfth Annual Meeting Tennessee State Medical Association, Peabody Hotel, Memphis, Tennessee, April 8-10, 1947 279
- Proceedings of the House of Delegates, Index 301
- Pulmonary Moniliasis Treated with Penicillin, Bernard M. Zussmann, M.D., Memphis 258
- Pulmonary Tuberculosis, Phrenic Paralysis in the Treatment of, F. H. Alley, M.D., Oakville, and W. W. Hubbard, M.D., Nashville 181
- Rambling Around 266, 308
- Recommendations, School Health Service, Dean F. Smiley, M.D., and F. V. Hein, Ph.D. 358
- Rectal Prolapse, The Management of, Daugh W. Smith, M.D., F.A.C.S., Nashville 360
- Registered, Have You? 302

- Resolutions 86, 156, 192, 337, 408
- Resuscitation of the Asphyxiated Newborn Infant, H. E. Atherton, M.D., Memphis 372
- Review of Progress—Diabetes Mellitus, Albert Weinstein, M.D., F.A.C.P., Nashville 220
- Rh Factor, Clinical Aspects of the, D. C. Seaward, M.D., Nashville 247
- Rheumatism, A Unique Heart Tetralogy with Palindromic, David Sheinberg, M.D., Memphis 260
- Ringlike Skin Lesions, Clarence Shaw, M.D., Chattanooga 330
- Rural Health, Second Annual Conference on 69
- School Health Service Recommendations, Dean F. Smiley, M.D., and F. V. Hein, Ph.D. 358
- Second Annual Conference on Rural Health 69
- Secretary's Letter, George F. Lull, M.D., Secretary and General Manager, American Medical Association 336, 407
- Shock Therapy, Observations in Electric, George Rosenberg, M.D., Veterans Administration Hospital, Murfreesboro 365
- Skin Lesions, Ringlike, Clarence Shaw, M.D., Chattanooga 330
- Skin, The Treatment of Benign and Malignant Neoplasms of the, Charles G. Andrews, M.D., Memphis 77
- Some Problems in the Field of Medical Economics, H. H. Shoulders, M.D., Nashville 137
- Some Unusual Complications of Diphtheria, Joe W. Johnson, M.D., Chattanooga 114
- Standing Committees 32, 68, 100, 136, 168, 204, 240, 278, 318, 348, 388, 430
- Surgical Treatment of Localized Epilepsy, Cobb Pilcher, M.D., Nashville 241
- Syphilis, Present-Day Management of Early, Dudley C. Smith, M.D., Charlottesville, Virginia 169
- Training for Registered Practical Nurses, W. A. Seeley, State Supervisor of Trade and Industrial Education, Nashville 245
- Treatment of Benign and Malignant Neoplasms of the Skin, Charles G. Andrews, M.D., Memphis 77
- Treatment of Localized Epilepsy, Surgical, Cobb Pilcher, M.D., Nashville 241
- Tuberculosis Control, Past Progress and Future Program of, J. B. Naive, M.D., Knoxville 48
- Tuberculosis, Phrenic Paralysis in the Treatment of Pulmonary, F. H. Alley, M.D., Oakville, and W. W. Hubbard, M.D., Nashville 181
- Tuberculosis, The Most Advanced Phases in the Treatment and Especially the Diagnosis of, J. B. Naive, M.D., Knoxville 253
- Unique Heart Tetralogy with Palindromic Rheumatism, David Sheinberg, M.D., Memphis 260
- Varicose Veins, The Problem of, E. M. Stevenson, M.D., Memphis 107
- Veins, The Problem of Varicose, E. M. Stevenson, M.D., Memphis 107
- Veterans Administration and the Tennessee State Medical Association for the Care of Veterans with Service Connected Disabilities, Agreement Between the 75
- Voluntary Prepayment Medical Care Plans, James R. McVay, M.D., Kansas City 389
- Woman's Auxiliary 89, 158, 271, 311, 340, 409

## AUTHORS

- Alley, F. H., M.D., Oakville—"Phrenic Paralysis in the Treatment of Pulmonary Tuberculosis" 181
- Andrews, Charles G., M.D., Memphis—"The Treatment of Benign and Malignant Neoplasms of the Skin" 77
- Atherton, H. E., M.D., Memphis—"Resuscitation of the Asphyxiated Newborn Infant" 372
- Austin, Richard B., III, B.S., M.D., Nashville—"An Analysis of 107 Cesarean Sections" 33
- Bogart, Franklin Blevins, M.D., Chattanooga 152
- Burch, John C., M.D., Nashville—"Functions of County Societies" 151
- Coley, Bradley L., M.D., New York, N. Y.—"Bone Lesions in Gaucher's Disease" 101
- Gaynor, E. J., III, Brunswick, Georgia—"Industrial Health Problems in the South" 349
- Hamilton, C. M., M.D., Nashville—"Distribution of Medical Care in Tennessee" 142
- Hein, F. V., Ph.D., Chicago—"School Health Service Recommendations" 358
- Hensley, William A., Jr., M.D., Cookeville—"Primary Atypical Pneumonia: A Review of Recent Literature" 3
- Hubbard, W. W., M.D., Nashville—"Phrenic Paralysis in the Treatment of Pulmonary Tuberculosis" 181
- Johnson, Joe W., M.D., Chattanooga—"Some Unusual Complications of Diphtheria" 114
- Killeffer, John J., M.D., Chattanooga—"Non-Operative Treatment of Acute Hematogenous Osteomyelitis: Preliminary Report" 319
- Kirtley, James A., Jr., M.D., Nashville—"Management of Arterial Emboli" 351
- Levinson, Abraham, M.D., Chicago, Illinois—"Diagnosis and Treatment of Meningitis in Children" 205
- McVay, James R., M.D., Kansas City—"Voluntary Prepayment Medical Care Plans" 389
- Molner, Joseph G., M.D., Detroit, Michigan—"Epidemiology and Recent Developments in Poliomyelitis" 176
- Moore, Moore, Jr., M.D., Memphis—"Bone Lesions in Gaucher's Disease" 101
- Naive, J. B., M.D., Knoxville—"Past Progress and Future Program of Tuberculosis Control" 48
- Naive, J. B., M.D., Knoxville—"The Most Advanced Phases in the Treatment and Especially the Diagnosis of Tuberculosis" 253
- Pilcher, Cobb, M.D., Nashville—"A Surgical Treatment of Localized Epilepsy" 241
- Portmann, U. V., M.D., Cleveland, Ohio—"Limitations and Indications of Surgery and Radiation Therapy" 211

- Robertson, Robert C., M.D., Chattanooga—"Non-Operative Treatment of Acute Hematogenous Osteomyelitis" 319
- Rosenberg, George, M.D., Veterans Administration Hospital, Murfreesboro—"Observations in Electric Shock Therapy" 365
- Seeley, W. A., Nashville—"Training for Registered Practical Nurses" 245
- Seward, D. C., M.D., Nashville—"Clinical Aspects of the Rh Factor" 247
- Shaw, Clarence, M.D., Chattanooga—"Ring-like Skin Lesions" 330
- Sheinberg, David, M.D., Memphis—"A Unique Heart Tetralogy with Palindromic Rheumatism" 260
- Shoulders, H. H., M.D., Nashville—"Some Problems in the Field of Medical Economics" 137
- Smiley, Dean F., M.D., Chicago—"School Health Service Recommendations" 358
- Smith, Daugh, W., M.D., F.A.C.S., Nashville—"The Management of Rectal Prolapse" 360
- Smith, Dudley C., M.D., Charlottesville, Virginia—"Present-Day Management of Early Syphilis" 169
- Stevenson, E. M., M.D., Memphis—"The Problem of Varicose Veins" 107
- Stinson, William D., M.D., Memphis—"An Analysis of the Causes of Globus Hystericus" 332
- Thompson, M. E., Governor, Atlanta, Georgia—"Georgia and Its Health Program" 402
- Tucker, C. B., M.D., Nashville—"Health Legislation Enacted by the Seventy-Fifth General Assembly" 40
- Vaughan, Sanford M., M.D., Henning—"External Rupture of Aortic Aneurysm—Case Report" 187
- Weinstein, Albert, M.D., F.A.C.P., Nashville—"Diabetes Mellitus—A Review of Progress" 220
- Whitaker, L. Spires, M.D., Chattanooga—"The Management of Traumatic Hemothorax" 43
- White, Robert H., Ph.D., Nashville—"Health Legislation Enacted by the Seventy-Fifth General Assembly" 40
- Whiteleather, John E., M.D., Memphis—"Acute Pulmonary Edema Resulting from Intravenous Saline" 326
- Wood, R. B., M.D., Knoxville—"Heart Block" 11
- Woolley, Clifton W., M.D., Memphis—"Lead Encephalopathy—Case Report" 188
- Witherspoon, Frank G., M.D., Nashville—"A New Method for the Ambulatory Treatment of Poison Ivy Dermatitis" 1
- Zussman, Bernard M., M.D., Memphis—"Pulmonary Moniliasis Treated with Penicillin" 258



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FRONT

## PRENATAL EXAMINATION

Date									
Blood Pressure									
Weight									
Vaginal Examination									
Height of Fundus									
Fetal Position									
F. H. S.									
Engagement									
Diet									
Bowels									
Bleeding									
Headache									
Edema									
Pain									
Vertigo									
Vomiting									
Eyes									
Urine: Albumin									
Sugar									
S. G.									
Microscopic									

Method of Delivery and Complications:

Final Examination and Treatment:

BACK

Date _____			
Name	Age	M.S.W.	Color
Address _____			
Date of Last Period	Date of Quickening	Confinement	
Number of Children	Living	Dead	Stillborn
Character of Labors: _____			
Miscarriages: _____			
P. M. H.—operations: _____			
Physical Examination:	Teeth:	Tonsils:	Heart:
Thyroid:	Breasts:	Lungs:	
Abdomen: _____			
Pelvic Measurements:	Spines:	Crests:	Ext. Conjugate:
	True Conj.:	Transverse of Outlet:	
Type of Pelvis: _____			
Pelvic Examination:	Blood Count:	Date—Hb	RBC      WBC
Blood Wassermann:	1.		
	2.		

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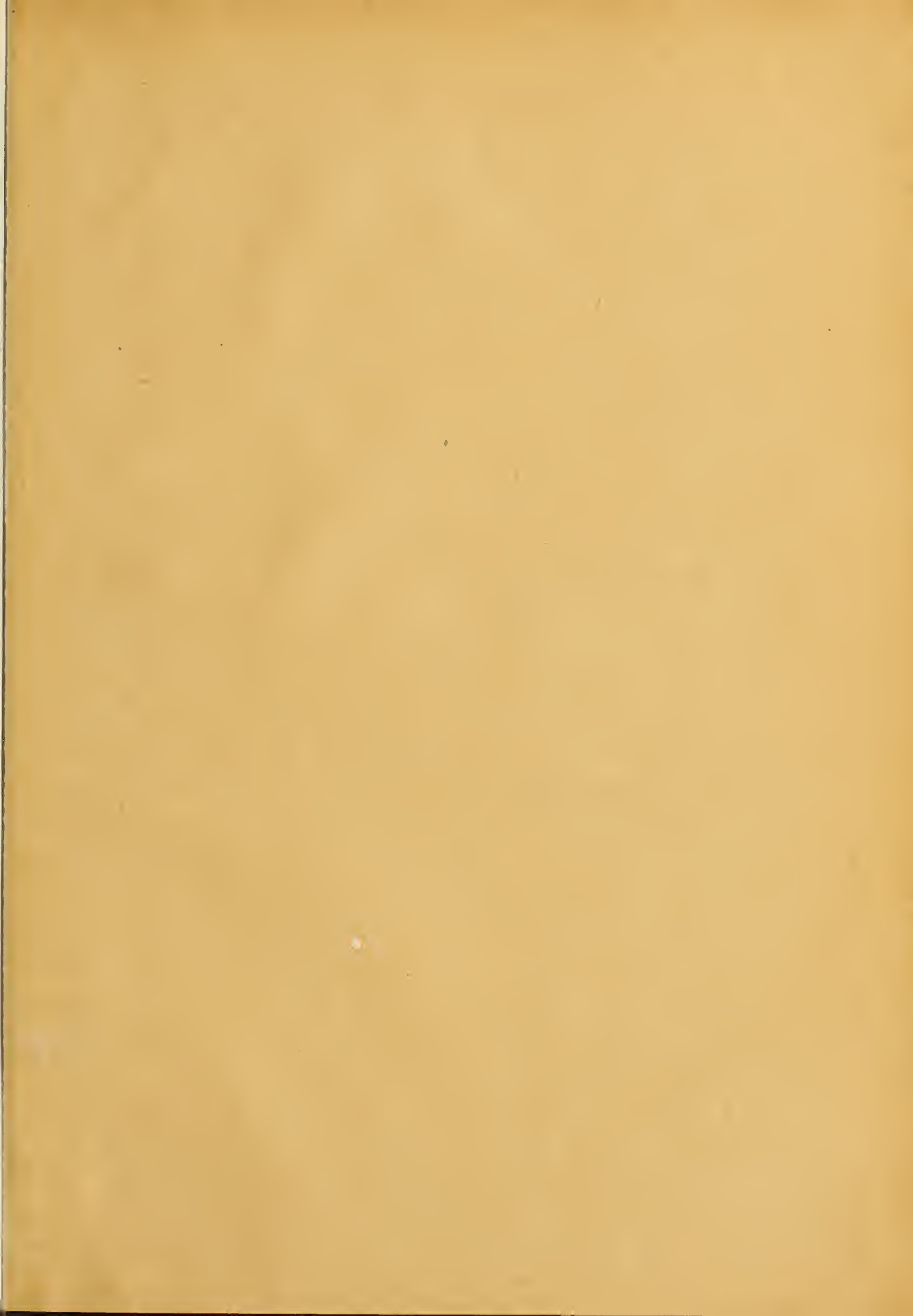
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